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ABSTRACT

Between July and November 1993, a cross-section of Australia's school- and workplace-based vocational education and training programs was studied to identify programs using innovative assessment strategies and materials. As innovative strategies/materials were identified, the study methodology was revised and a case study approach was adopted. The eight programs selected for study were competency-based programs. They represented a mix of school and workplace programs and prepared students for certificates in widely ranging areas/occupations, including the following: adult general education, engineering production, carpentry and joinery, public administration, restaurant service, and occupational health and safety. The practices and materials used in each program were identified and discussed. The following issues emerging from the case studies were examined: assessor training; integrating learning and assessment; validity and reliability; literacy, numeracy, and language; enterprise and industry standards; and assessment instruments. (Most of this document consists of the eight case studies. The individual case study reports contain the following kinds of sample materials/exhibits: sample learning activities/modules, assessor guidelines, competency assessment checklists, student assessment criteria, competency statements and corresponding performance criteria, and sample tests. The bibliography lists 10 references.) (MN)

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Working towards best practice in assessment

Barbara Bloch

Peter Thomson

A case study approach to some issues concerning competency-based assessment in the vocational education and training sector

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Adelaide 1994

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Working towards best practice in assessment

Introduction

Late in 1992 the head of the Australian National Training Authority (ANTA) made the following prediction.

> *Unless we address the issue of assessment, both on and off the job, within the next one or two years we will have unleashed powerful forces for change in vocational education and training without a means of knowing whether they work.*
>
> (Moran, 1992, p.1)

With Moran's two year deadline fast approaching, relatively little progress has been made towards establishing whether or not these 'powerful forces' are working for the benefit of vocational education and training.

The research which is the subject of this report is a small contribution to our knowledge about competency-based assessment in Australia. It was a project begun with high hopes. Unfortunately these hopes were met to a limited extent only. Our aim was to collect Australian examples of exemplary competency-based assessment instruments and to publish the collection along with advice to practitioners in the field on how to draw upon and adapt the exemplars to meet their own needs.

The various issues and the way these were dealt with are explained in the first section of this report. The case studies drawn from our field work make up the second section.

What constitutes best practice in assessment?

Any consideration of best practice in assessment requires us to look beyond a narrow context. The perfect assessment instrument may never be written but even if it were, the perfect instrument by itself would be of little value. Consideration of best practice in assessment takes us well beyond the actual assessment instruments. Best practice requires that:

- assessment has validity;
- assessors are competent;
- the process of assessment has transparency;

- judgements of assessors and the process of certifying competence are compatible;
- procedures are subject to verification.

Each of these will be dealt with in turn.

VALIDITY OF ASSESSMENT

> **Validity** is an evaluative judgement about the degree of support we have for the assessment decisions that are made.

Once upon a time we thought in terms of types of validity (content, predictive, construct etc.), but today the focus is on the unitary nature of validity and the pre-eminence of construct validity (Messick, 1993).

The new concept of validity requires us to pose questions about the decisions we make that are based on assessment results. For example, if I decide that a trainee is competent, how much support can I muster to justify the decision? Furthermore, when applying construct validity considerations, alternative explanations should be sought to explain the results so that we are not led to conclusions that are hard to substantiate. The discounting of alternative explanations for an assessment result is the hallmark of construct validity.

Support for an assessment decision must also be related to the social consequences of that decision. An example would be failing to take account of the fact that females tend to do less well on quantitative tests.

> *The key questions are whether the potential and actual social consequences of test interpretation and use are not only supportive of the intended testing purposes, but at the same time are consistent with other social values.*
>
> (Messick, p.18)

The failure, to this point in time, of the architects of Australian policy on competency-based assessment to acknowledge the implications of this new perspective on validity needs to be noted.

COMPETENT ASSESSORS

> **Competent** implies being knowledgable about what is being assessed and being capable of making consistent judgements based on the evidence available.

There can be little argument about which is more important to an assessor—knowledge about *what* is being assessed or knowledge about *how* to assess. The former is critical, the latter valuable. Hopefully our assessors of the future will be required to have both qualities.

There is currently work in progress on training programs for assessors based on a set of competency standards developed by the Competency Standards Body—Assessors and Workplace Trainers.

The ability of assessors to make 'consistent judgements' needs to be stressed. This ensures that the competency-based assessment procedures are *reliable*. In a competency-based system we want our assessors to provide reliability. At one level this involves individual assessors making consistent judgements when presented with the same evidence on different occasions. At a second level we want a group of assessors to all arrive at the same (or nearly the same) judgement about a particular piece of evidence. The implication of this for the training of assessors is discussed later in the report.

Transparency of the assessment process

> **Transparency** means that the planning and conduct of the assessment, the way in which performance is judged and the reporting of the results are clearly understood by and useful to all involved—trainees, assessors and employers.

One of the great strengths of a competency-based assessment system is its openness. The purpose, the content, the methods, the standards to be met and the way judgements will be made are all known (or at least available) to anybody who has an interest in the process.

Transparency has the added value of ensuring the assessment process is useful. By clearly understanding what is involved in the process people are in a position to avoid unnecessary and irrelevant assessments and concentrate on what will be useful to them.

Compatibility between the judgements of assessors and the process of certifying competency

> **Compatibility** implies that what is done in the name of certification is directly relevant to the assessment system and that extraneous factors are not taken into consideration.

The assessment of competency is not the same as the assessment of the outcomes of a course of study delivered in an educational institution. Competency assessment allows for the assessment of knowledge, skills and attitudes *irrespective of how these are obtained*. Therefore, if we confine our assessment to those things we have delivered in our course (away from the real world of work) then we are most likely assessing achievement of course content rather than competency.

Whenever an assessment process may result in the issue of a certificate of competency it is essential the assessor is making judgements about competency as it has been defined in the competency standards. In the majority of cases this will mean that some account must be taken of both on-job and off-job performance if the assessor's work is to be

compatible with the certification requirements. In these early days of competency-based assessment we are continuing to see assessments being made of the learning outcomes of a curriculum that have, at best, a dubious relationship with competency standards.

VERIFICATION OF PROCEDURES

> **Verification** is a quality assurance process carried out by appropriate authorities and individuals in accordance with specific guidelines.

As already noted, best practice in assessment requires more than good assessment instruments. Quality assurance checks must be applied to the instruments, the assessors and the procedures being used. Just who, if anybody, is to be given this role of verification in Australia's new system remains to be decided. Verification can be both an internally and externally mediated process, but there has been little discussion about how either process might operate. Given that the assessors can hardly be expected to verify their own work, consideration must be given to recognising a group of people who could act as internal or external verifiers.

We are currently putting into place an assessment system which lacks any rigorous quality assurance checks and is therefore inviting some obvious criticism. At the level of the individual enterprise, verification is sometimes found as part of the enterprise's quality assurance procedures, but, overall, verification is at best *ad hoc*. Nor can we be sure that an enterprise quality assurance program is the best vehicle for verifying the assessment of an education and training program. We will need to know a lot more about how quality assurance programs deal with the social implications of using assessments before embracing such approaches.

* * *

What we can be sure about is that a breakdown in any of the above five elements will result in a defective assessment system. It was a recognition of the interdependence of the various elements of the assessment system that encouraged us to adopt a case study approach in the project that is the subject of this report.

Our study does not, however, give equal consideration to all the elements of the system. It is focussed around the assessment instruments and how they are used. Regrettably there is little that can be said about best practice at the system level. As already indicated, we did not find evidence of any thorough and ongoing approach for verifying assessment procedures at either the institutional or system levels. The consequences of this failure to verify the quality of what is being done in the name of assessment are likely to be far reaching, but at this stage we can do no more than sound a warning.

Issues relevant to best practice that are discussed further in this report include:

- integrated assessment (the integration of assessment into the learning process coupled with attempts to assess a number of learning outcomes at the one time);
- assessor qualifications (what makes a competent assessor?);
- trainee involvement in assessment (what roles should trainees have in their own assessment?);
- equity considerations (what must be done to ensure competency-based assessment does not erect barriers to certain groups in the community?).

Purpose and use of the report

Much has been written from the perspectives of both on and off-the-job assessment on issues surrounding competency-based assessment in Australia. In 1993 there were two major conferences on assessment—one in April, the *National assessment research forum*, and another in November, *Testing times*, a national conference on assessment for competency-based training. As well, in June there was a national assessment workshop to provide the opportunity for stakeholders with different perspectives on competency-based assessment, to build on the progress made since the April forum. Participants were from training institutions (especially TAFE systems), industry training councils/advisory boards and other industry organisations, Department of Employment, Education and Training (DEET) and equivalent State bureaucracies, universities and large enterprises.

Noticeable 'lack' of attendance at these events came from unions, small business and community sector representation. Speculation on the absences of these groups might lead one to ask: Do unions see assessment as an industrial relations issue rather than an educational one? Are small business people and the community sector too busy and uninvolved in CB assessment?

From participants at these conferences and workshops, from NCVER research in different industry areas and from 'cries for help' across the board, has come a demand for assessment exemplars or models, on which people can base their work and derive ideas and inspiration. The purpose of this report then, is primarily to be of assistance to practitioners of CBA. Namely, those people who are writing assessment instruments and writing learning materials incorporating assessments; as well as for those trainers and assessors (on and off the job) who are concerned to implement effectively and equitably the principles of assessment as outlined under the National Framework for the Recognition of Training (NFROT) agreement. (These principles cover validity, reliability, flexibility and fairness.)

The exemplars in the report have been cited as instances of *good practice in assessment* (defined in the introduction, page 1). *They are to be viewed*

as models which provide sufficiently detailed information to enable people with a variety of perspectives and motivations to adapt aspects of the exemplars to meet their particular needs.

Research methodology

The research which forms the basis of this report was conducted by Barbara Bloch, an officer of the NSW TAFE Commission, in conjunction with Peter Thomson of NCVER. It was carried out between July and November, 1993.

The project began by contacting organisations and individuals who could be of assistance. They included industry training advisory boards, NSW TAFE training divisions, DEET (and state equivalents) and academics. In fact, the first two to three months were devoted to making contact with as broad a cross-section of the 'training, education and assessment community' as possible, within the time and budgetary constraints. It was necessary to gain an overview of what *was already occurring* (step one of the project) before becoming more focussed on evaluating specific assessment methods, instruments and processes. During this period Barbara spoke to many people on the phone and in person who raised a wide range of sometimes conflicting issues, problems and questions concerning competency-based assessment. These fell into two main groups—enterprise-related and TAFE and curriculum-related issues.

Enterprise-related issues

Comments made by industry and training contacts included:

- 'industry restructuring and changes in work practices has meant that in some industries, specific occupations have transcended their "designated" ASF levels'
- 'will CBA also apply (on the job) to the large percentage of the workforce who are part-time or casual?'
- 'on-job assessment must not involve a loss of productivity'
- 'companies are not primarily "in the game" of assessment'
- 'supervisors may not be able to be "objective" while carrying out assessments'
- 'trainers shouldn't be assessors as well'
- 'we must be able to ensure the reliability and quality assurance of on-job assessments done in different worksites by different assessors within an industry'

- 'there is a perception of oral assessments being less reliable than written ones'
- 'who validates the assessment process?'
- 'only workplace assessment is "really valid"'
- 'there is an issue of "parity of esteem" between workplace assessment and external training and assessment'
- 'there must be credit transfer available between workplace assessment and TAFE training'
- 'is it the responsibility of employer to meet the literacy/numeracy/language requirements associated with its training and assessment?'
- 'we've thrown out RPL because it's too expensive'
- 'RPL has provided significant savings to our company'

TAFE and curriculum-related issues

Comment made by training and industry contacts included:

- 'some curriculum has been developed before industry standards were in place and so some learning outcomes and assessment criteria may alter'
- 'it's hard writing assessment instruments when the industry standards and performance criteria are so general'
- 'it's taking time arriving at agreement between states on assessment exemplars for national curriculum'
- 'TAFE has a potentially significant role to play as a workplace assessor'
- 'TAFE shouldn't be involved with workplace assessment'
- 'there's a huge value in off-the-job training assessing for generic skills and knowledge'
- 'we're questioning the transferability of enterprise and product-specific training to other work situations'
- 'there's a danger of assessments assuming too large a proportion of the learning process'
- 'critical and non-critical learning outcomes—do we need to assess them all, including those deemed "non-critical"?'

From the comments received it was clear that there were many issues related to the form that competency-based assessment should take and how workplace assessment fitted into the training/education system.

Changes made to original project methodology

It was during this phase of the research—the 'gathering of evidence'—that the feedback increasingly suggested that a series of case studies, 'telling a story' of how assessment is being carried out in a variety of education and training situations, industries, ASF levels, with an analysis of those case studies, would be most beneficial. It was thought preferable to provide examples of assessment tasks within the context in which they were being used (assessment procedures) and to describe the educational and/or industrial implications following on from the results of the assessment, rather than give examples of assessment tasks in isolation.

Thus the second half of this project's life was devoted to identifying particular modules and training programs (both on and off the job) whose assessment procedures, methods and tasks were seen to be sufficiently innovative and exemplary to warrant being the subject of a case study. The questions asked in each study are detailed in the proforma on pages 13-16.

The process of writing up the case studies was itself an interesting one and illustrates the often complex (and sometimes sensitive) issues surrounding assessment. After lengthy discussions with relevant training managers, trainers, teachers, assessors and program co-ordinators, the case study was written in draft according to this proforma. It was revised and returned for checking several times to the assessment practitioners. The importance all parties placed on providing accurate, clear information cannot be over-emphasised; nor can our thanks to all the people who gave so generously and consistently of their time in the interests of providing accessible information to be of assistance to others in the field.

How does a system of competency-based assessment operate?

The fundamental difference between competency-based assessment and traditional assessment is that the former is *criterion-referenced* while the latter is *norm-referenced*. Norm-referenced assessment focusses on comparing who is better than whom, whether it be students in one class, or in an entire state (in, for example, the Year 12 examinations). Criterion-referenced assessment, on the other hand, assesses people according to external standards and criteria which remain constant regardless of who is being assessed, or where. Under a criterion-referenced assessment system people are assessed as either 'competent' or 'not yet competent'. However, this distinction is not always that

simple. Certainly in some TAFE systems in Australia the possibilities for graded CBA—to motivate students, reward excellence and indirectly, to assist employers in recruitment—is being explored and implemented.

In Australia a *competency-based curriculum* (including assessment) is derived from a set of *competency standards*. These standards are generally a description of what a competent person does in the workplace.

The *curriculum*, on the other hand, is a structured, sequenced, learning program which should enable students to achieve specified education and training outcomes. It allows students to meet the competency standards or address an aspect of them.

The move towards a competency-based approach has focussed attention on the assessment of clearly stated outcomes, in order that skills can be recognised whether they are gained through a formal training program, through on-the-job learning or through life experiences. This reform is a key feature of the National Training Agenda (NTA). Other features of the agenda include a national agreed framework for the recognition of training (NFROT), an open national training market (open to TAFE and a range of private providers), an Australian Vocational Certificate (AVC) system and an emphasis on fair access to vocational education and training. As well as the last few years seeing enormous changes in the vocational training and education arena, there have been similarly significant changes in the industrial arena with many industries and awards having undergone or undergoing restructuring.

Assessment in the workplace

Australian industry, through Competency Standards Bodies (CSBs) are developing standards of competency at different levels for the occupations within their industry. This, in part, involves setting performance criteria for each standard against which people are assessed in order for competency to be recognised. A number of newly negotiated awards have based their skill levels on these competency standards and have determined that increases in workers' skill levels and therefore, wages, will be dependent on both the satisfactory completion of a program of training and/or assessment and the employer's need for those skills to be utilised by the employee.

This relationship between awards and competency standards has been the subject of considerable controversy in recent times. There has always been the danger that industrial relations issues related to awards would distort education and training policy and planning. The problem has been partly resolved by the National Training Board specifically stating that the competency standards are independent of awards. However, a de facto relationship still exists between the two.

Although in the workplace it is clear that employers (and supervisors) have always assessed their workers' performance against perceived or actual (though not national), standards, what is changing is the increasing formality of that assessment, the industrial implications for employees being deemed competent and thus the importance of assessor judgements being accurate and reliable.

Some elements of best practice

The adoption of national competency standards as a basis for education and training and assessment means that assessment processes are open for scrutiny as never before. Those assessing have far more information on which to base a judgement of competence than was the case prior to CBT. The impact of the moves towards allowing learners/trainees access to assessment information and including the criteria by which they are to be assessed and the possibilities for a candidate's involvement in the assessment procedure (in comparison to an external examination, for example) cannot be underestimated. Good assessment encourages learners to view assessment as being supportive of and integrated into the learning process. It encourages them to take some responsibility for their own progress (through self-assessment) and to decide when they are ready for the final, summative assessment. These approaches to assessment are reflected in the case studies in this report. Issues that have arisen as a result of this research will be covered in detail at the end of this report, beginning on page 17.

TAFE and competency-based assessment

The Vocational Education and Training (VET) system and TAFE in particular are being greatly affected by developments in competency-based training and assessment. Assessments within courses and modules are based on assessment criteria which are used to judge a student's performance. There is a significant issue for educators concerning the 'level of detail' of the assessment within any given module. Should we assess each learning outcome, clusters of learning outcomes or should we assess at the module level in order for the assessment to be integrated so as to reflect the purpose of the module? If we assess only individual learning outcomes, there is a danger that in the interests of reliability and accuracy, we are atomising and fragmentising the learning and in danger of making the assessments less valid (to the overall purpose of the module). We need to aim at developing integrated assessment tasks that can assess whether a person has combined skills and knowledge across a variety of learning outcomes.

It is important to appreciate that TAFE's needs in assessment may be different from those of industry as TAFE tends to give more emphasis on teaching broader-based skills and underpinning knowledge. TAFE aims to provide training and assessment that enables students to become competent. Concern has been expressed that TAFE assessment needs to be totally different from what has been done before CBT.

However, many assessment methods and tasks or events are equally as valid in CBT curricula as they were to pre-CBT curricula. The major difference is that the syllabus documents now provide assessment criteria against which evidence of the student's achievement can be assessed.

There is also evidence that changes in assessment strategies were already occurring before CBT. For example, the closer alignment of training courses and thus assessment tasks with the needs of industry and the workplace was sparked, in part, by the work on skills analysis and training needs analysis in the late 1980s. As well, the increasing influence of economic rationalist thinking on vocational education and training was occurring in the belief that an increase in skills acquisition and workers' training would make Australia more internationally competitive.

Equity considerations

The National Reform Agenda has the potential to open up training and assessment opportunities to many people who have not had them before. However, it is important to ensure that barriers are not erected against these people. For example, insufficient English language or literacy skills, lack of self-confidence or cultural differences, may restrict access to new opportunities because the print-based pages of criteria against which individuals are to be assessed are in themselves too daunting and incomprehensible. Relatedly, as the case studies indicate, more learning materials used in training programs (both on and off the job) are becoming self-paced. This brings with it a concern that the level of literacy required to participate in the training may be higher than the literacy requirements for the job itself and has the potential to disadvantage and exclude people from both English speaking and non-English speaking backgrounds.

These are two of a number of equity issues related to competency-based training and assessment. Looking more broadly, there are concerns about access to these opportunities for the millions of part-time and casual workers, a majority of whom are women but whose total numbers are increasing as workplaces maintain a smaller 'core' workforce and employ more people on a casual or part-time basis. What are employers' training obligations to these workers, particularly (but not only) among small businesses for whom the Training Guarantee Levy is not mandatory and for whom economic survival is absolutely the number one imperative? For these 'categories' of workers and others such as those employed people who have no access to structured on-job training, for those who need or want to make a career change, as well as the large numbers who are unemployed and/or wanting to undertake pre-vocational courses, external training (through TAFE or private providers) is the most viable option.

The case study approach—the importance of context and process

Background

This assessment project began in July 1993 at a time when competency-based training and assessment was still in its infancy. We found a familiar refrain from both within industry and the VET sectors. Repeated comments were along such lines as:

- 'We've just completed a pilot assessment project but the evaluation report hasn't been endorsed yet'
- 'We've just had our standards endorsed by the NTB, and now we're about to begin an assessment project'
- 'We've just begun an ACTRAC curriculum project, haven't begun to look at assessment yet'
- 'We're just about to get the course accredited by .... we're developing learning materials and assessments... the course/modules will run next year'
- 'We're writing assessment instruments for each national module but we haven't been able to get agreement amongst all the states so they've been withdrawn to be rewritten' and so on.

These remarks show that there was a limited *quantity of competency-based* assessment occurring, both on the job and in education and training institutions, and therefore the breadth of selection of exemplar assessments for this project was also going to be limited. We need to acknowledge that while some curricula/training programs have been using CBA for a few years, most have not (because of the unavailability of the relevant industry standards) and indeed participants in this project were anxious to stress that what they were doing were mostly first attempts and that they appreciated it is not always possible to 'get it right first time'.

Very early in the life of this project, it became apparent that evaluating assessments was not a straightforward matter. As mentioned previously, in order to incorporate the complexities of the assessment process, and to provide a more complete picture of that process, it was decided to present and evaluate each one through a case study approach. Thus the criteria we are using apply not only to the assessment instruments/tasks and methods, but also to assessment in the wider context. Broadly speaking, each case study represents 'good practice' although not every single aspect within each could be described as 'exemplary'.

As well, the case studies do not provide evidence of the design of *assessment schemes*—that is, a plan for assessment of a whole module.

In NSW TAFE, curriculum designers are required to design an assessment scheme for each module in the curriculum. It directs and guides the teacher on how to collect evidence of achievement and specifies:

- assessment events (which may consist of one or more than one item)
- their weightings
- their sequencing
- their timing
- the learning outcomes to which they relate and their relationship to the module purpose and course aim
- whether events and modules are graded or ungraded
- other information as necessary

The importance of context

The context of each assessment is crucial to a judgement of its effectiveness. This realisation leads one to pose some preliminary fundamental questions to define the context, such as the following:

- Is the assessment done on or off the job?
- Is it being carried out during actual work activities or is it simulated work?
- Is it for recognition of prior learning (RPL) purposes?
- Is it formative or summative assessment?
- Is assessment integrated into a program of learning?
- What (if any) is the learner's participation in the assessment process?

Questions around which the case studies were developed

Criteria for evaluating best practice in assessment processes, are discussed earlier in this report, on pages 1–4. Given the differing circumstances of each one, not all questions are of equal relevance in each study, nor were they all discussed in equal depth with the individual participants. What is of underlying significance is that the assessment 'works'—for the learner, for the assessor, within the curriculum, for the organisation.

The questions that follow are those that formed the basis for assessing the effectiveness of each assessment case study. They were not asked verbatim of each interviewee. Rather, they underpinned the approach taken to viewing each case study. If, after the initial face-to-face interview, it was found that some of the points were not covered, the researcher returned to clarify and elaborate on particular areas.

Standards

- Is the curriculum or training program based on industry standards? Enterprise standards? Both? If there are enterprise-specific standards only, has the enterprise considered issues of portability and transferability of its training for its employees? How?

Assessment methods

- Does the learner have any involvement in selecting the method?
- Within the instrument under study, are a range of methods used (e.g. performance observation, oral or written questioning) to provide a variety of evidence with which to assess competency?
- Is the method valid--that is, is it appropriate to the skill/knowledge being assessed?
- Are a range of methods used in the entire program or module?

Assessment instrument—formative and summative assessment

- Are there ample opportunities for formative assessment to occur?
- Is the instrument an integral part of the learning process—that is, is there an integrated relationship between the assessment and the teaching and learning? (This also pertains to formative assessment)
- If the training program is off the job, does the assessment instrument relate to a workplace situation? How?
- Does the instrument assess a number of criteria, elements/learning outcomes at one time—is it holistic?
- Relatedly, does the instrument address the purpose of the module as a whole?
- Does the instrument incorporate a number of methods (see above)?
- Does the instrument include instructions to the assessor and the assessee to clarify the task, under what conditions, to what standards required? If not, how is this information conveyed to the learner and by whom?

Learning materials

- Are they all in written form? (If so, are there provisions made to assist people with insufficient literacy skills?)
- Do they include other media?
- Do they demand a higher level of literacy (and numeracy) than is necessary for the particular job the training is for? If they do, what measures are available to assist people?
- Are they written in plain English?
- Do they include scope for self-assessment?
- If there are no learning materials, how is the learner able to acquire the necessary skills and knowledge to be assessed?

Equity considerations

See above under 'Learning materials' for some literacy-related issues.

- Are learners able to be assessed orally if their written skills are insufficient?
- Is a written method a necessary way to assess the particular skills/knowledge under assessment?
- What assistance is available for people from non-English speaking background who need it? For example, interpreters, translators—how are they used?
- Are principles of reasonable adjustment for people with disabilities able to be incorporated into the assessment procedures?
- Is the training and assessment gender inclusive?

Assessor

- Is the assessor the same person as the trainer/teacher?
- If the assessor is a different person to the trainer/teacher, what relationship does he/she have with the learner prior to the assessment?
- What type and extent of training has the assessor undergone?
- On what basis are assessors selected? Technical expertise alone or are there other criteria used as well?

Pre-assessment

- Are all aspects of the assessment explained adequately to the candidate? How? By whom?
- Specifically, are they aware of the criteria against which they will be assessed?

Post-assessment feedback

- Does this occur immediately after the assessment?
- Are there opportunities for assessees to give comment on their assessment to the assessor?

Re-assessment

- What opportunities are there for the learner to be re-assessed on the same event?

Appeals procedures

- Can an assessee appeal against an unsatisfactory assessment? To whom?

Recording of results

- Does it appear to be easy to manage and access?
- Who has access to the assessment records?

Validity and reliability

- Is the summative assessment instrument able to strike a balance between reliability and validity?
- Are guidelines given to assessors on the desired outcomes and responses clear and unambiguous to ensure consistent, reliable judgements are made by different assessors?
- Are there other mechanisms in place to encourage reliability in judgements among assessors (for example, through regular meetings)?

The case studies

The methodology for the case studies was described in an earlier section. The studies were selected to provide examples of aspects of good practice in competency-based assessment both on and off the job across a range of training programs, industry and occupational settings. Their approaches to assessment reveal similarities as well as differences and all raise issues worthy of further discussion and research—see next chapter, 'Issues emerging from the research'.

A summary of each case study is provided on pages 25 and 26.

Issues emerging from the research

The following are issues that have emerged not only from the case studies themselves, but also out of the discussions held with a range of people concerned with assessment—in industry (and in enterprises), in TAFE colleges and other training institutions. A snap-shot view of some of the concerns expressed is given on pages 6–7. The criticisms discussed below are not directed at any individual case study cited in this report. Rather, the purpose of the critiques is to increase the general understanding and knowledge of competency-based assessment. This report, by revealing some of the problems, pitfalls and complexities that are emerging in these early days and making some suggestions for tackling them, is contributing to a considered and open approach to CBA. It is our hope that this will be of benefit to all stakeholders.

Assessor training (workplace)

The Competency Standards Body for Assessors and Workplace Trainers has recently developed standards for workplace assessors, and training based on these standards is now beginning. The case studies and the research reveal a variety of assessor training in place in individual enterprises. Some companies have not provided specific *assessor* training, but rather have provided 'train the trainer' programs or programs on basic methods of instruction offered by TAFE institutions.

Our research suggests, however, that there is specific training that assessors need, apart from learning how to *train*. The answer to the question of how long it takes to train someone to be an effective assessor will depend on the level of technical expertise the person possesses. The length of time will also depend on the 'entry skills' of the would-be assessor in competency-based training and assessment. The ability to take competency standards and from them develop assessments which are valid and reliable is a sophisticated skill. A high level of technical expertise in the competencies under assessment is a necessary prerequisite and on top of this expertise in assessment procedures. An example of the new skills that are required with CBA is the ability to hold pre- and post-assessment discussion sessions with the candidate.

The adequate training of assessors is particularly imperative given that Australia has not adopted the kinds of quality assurance mechanisms that other countries have done for their national occupational standards. That is, we have not established a cross-industry system of external verifiers (by accrediting and awarding bodies) to ensure that national standards are being properly assessed in our training institutions and workplaces. Similarly, although some individual workplaces have chosen this, again we have not systematically in p the equivalent of the British 'internal verifiers' whose job it is to monitor the assessors and ensure they are operating effectively to t required level.

There are advantages to this in the sense of wishing to avoid the 'over-bureaucratisation' of competency-based assessment. However, the issue of assessor competence is of real concern if industry standards are to have any meaning. Therefore, as well as the need for thorough assessor training, there is also a need for assessor moderation to occur within industries and between training programs, to ensure a consistency and reliability in interpreting the standards and addressing such issues as how much evidence needs to be collected in order to deem a person 'competent'. In particular industries, for example Building and Construction (NSW) and Tourism and Hospitality, this issue of external assessors and verifiers is being addressed.

However, we believe it is necessary to question whether the short course approach currently being promoted by a number of providers and the CSB for assessors and workplace trainers is adequate for the job at hand.

Integrating learning and assessment

There is concern in the VET sector (and reinforced during our conversations with practitioners) that in competency-based training programs, 'there is an artificial and de-motivating fragmentation of the teaching and learning process in the interests of assessment' (SCOTVEC, 1993, *Towards best practice, Executive summary*, p.4-5). This is neither in the interests of the learner or the teacher/assessor. There is evidence that, particularly when modules are short (say, 10-20 hours), the amount of time taken to assess is increasing in proportion to the amount of time for teaching/learning. This can be a problem in the curriculum design; too much content for the amount of time to complete the module, and/or it can be a problem of over-assessment, where each learning outcome (or even assessment criterion) is assessed separately.

In one module cited in the SCOTVEC report, an extra three and a half hours was taken up by assessment beyond the total duration of the model (15 hours). Teachers complained that too much time was being devoted to assessment and for students, it represented 'too much testing' with an increase in the possibility of 'failing'. As well, if modules are presented in such small units over a short period of time, this can lead to confusion, 'compounded by insufficient time for practice to allow the information to be organised, connected and stored for later recall' (*Report on Build-a-job project implementation period—March to November 1993*, p.7). One has to ask how effective the learning can be when there is such little time to practise the skills over a period of time. What will be the retention of skills and knowledge acquired once a module is over if there are no opportunities to use them in further modules and they are not augmented by on-the-job training?

The SCOTVEC report, through a series of case studies (of on- and off-the-job assessment) stresses the benefits of *integrated assessment*

> *. . . to save delivery time and thus reduce costs . . . integrated assessment is the process whereby one assessment can be used as the means of gathering evidence which relates to a number of learning outcomes (or elements). In its simplest form integrated assessment (for instance, a project, assignment or case study) can take place within a single unit or module. Examples of integrated assessment which include the use of one assessment situation to gather evidence for a number of outcomes for modules or units from different curricular areas are less common but, none-the-less do exist.*
>
> (SCOTVEC, 1993 pp.3-4)

Curriculum writers and assessors (both on and off job) should be encouraged to 'sample' assess. That is, particular learning outcomes may be critical (for example in the health and safety area) and need assessment; others within a module may be selectively combined so that the purpose of the module as a whole is being assessed in terms of the learner's overall skills, knowledge and attitudes. (This information would be stated in the overall assessment *design* or *scheme*, as mentioned on page 13.)

Integrated assessment is of benefit to the module developer and assessor since it involves developing and administering a much smaller number of assessments. This also makes it more cost-effective. Teaching can become more wide-reaching, as teachers do not have to restrict themselves to teaching towards the next learning outcome and related assessment event. For learners, integrated assessment can mean that 'different aspects of a program of learning can be brought together, reinforcing the learning and demonstrating the interrelationship of the various components, and into the bargain making the assessment much more interesting and stimulating' (SCOTVEC, p.5).

Validity and reliability

On the whole the case studies revealed a relatively unsophisticated approach to the issues of validity and reliability. This is not surprising as only limited advice on these fundamentally important issues has been made available by the decision-making bodies through their publications, for example VEETAC (1993) and Competency Standards Body—Assessors and Workplace Trainers (1993). There has been a disappointing failure on the part of Australian decision makers to recognise the pre-eminence of the unitary concept of validity and little acknowledgement of the social consequences of assessment that has been argued so thoroughly in Messick's (1993) work.

In the case studies *validity* was viewed by most participants as being about whether the assessment was actually assessing what it was supposed to be assessing (content validity). Most participants felt that

their assessment instruments were valid in this sense. However, there are further issues to be raised concerning validity.

Firstly, there is clear need for research to be carried out on what *mechanisms* and *strategies* we can employ to ensure that our assessment instruments are valid and how the unitary concept of validity impacts on what is being done (see page 2).

Secondly, there are different aspects of validity that impinge upon the assessment. Example of the kinds of questions we need to be asking and responding to include:

- Is the *method* appropriate (valid) for the skills/knowledge under assessment? (see following section on literacy, language and numeracy for an example of this).

- Does the assessment reflect the competency standard/purpose of the module?

- Is the 'range of variables' specified in the unit of competency or the content specified in the module adequately covered (content validity)? Determining what constitutes 'sufficient evidence' (in order not to over or under assess) is a question of validity. It may involve only assessing the *critical* elements of a learning outcome. Using sampling techniques to gather sufficient evidence that the identified critical elements or learning outcomes have been achieved, will assist in determining the validity of the assessment of the unit/module as a whole.

- Does the assessment instrument include clear guidelines for the assessor and clear directions for the learner on what is expected of them and what the criteria for the assessment are?

- Can we ascertain whether the assessment is extending the student/trainee in all areas covered in the training (for instance, by assisting them to define and solve problems) or does it merely reinforce the learning of factual information?

Reliability or consistency of assessment results refers to both reliability of the instrument and the reliability of an assessor to make consistent judgements and of different assessors to make similar judgements based on the same external criteria. Quality assurance mechanisms need to be developed to facilitate assessor reliability by, for instance:

- observing a sample of assessments taking place (across workplaces or training institutions) to monitor their consistency
- observing a sample of products
- allowing for assessors to meet to monitor their own assessments against the standards, to compare the amount and type (a validity issue) of evidence being collected
- considering carefully how assessors are selected and trained.

These mechanisms all carry with them cost implications and the inevitable questions of who will perform these tasks.

All those concerned with the future of competency-based education, training and assessment in this country need to work towards finding a balance between over-bureaucratising the assessment process and creating a system that is so 'loose' that it renders absurd the notion of national standards and portable competencies.

Literacy, numeracy and language

Concerns were raised earlier in this report over the issue of the literacy requirements for training and assessment in relation to the literacy requirements needed for the job. This is an issue for both people from English and non-English speaking backgrounds.

The current rapid increase in the development of self-paced learning packages for training both in-house and by external providers gives rise for further concern. For reasons of cost-savings, these packages are mostly produced in written form, possibly supplemented by computer-aided learning (for which one still needs literacy skills) and/or video.

Those participants in the case studies from enterprises acknowledged there could be a 'problem' for some of their employees in accessing the learning materials. Considerable efforts were made to present the materials in plain English and to have a clear layout and design. Supervisors/mentors/trainers were available on an informal basis to assist people with learning materials. It is not possible to gauge whether this informal assistance is sufficient for all those with reading and writing difficulties. When does it occur? During work hours? Outside work time? There is an assumption that anyone who can read and write can teach another to do so. How well-founded is this assumption? On the other hand, self-placed learning does have the advantage that one can go at one's own pace, without feeling the pressure to keep up with the rest of the group.

Language, literacy and numeracy skills to cope with the training demands of new courses (in TAFE, for example) is becoming an increasingly serious issue, particularly for operator level workers.

> *These workers can cope with the language, literacy and numeracy demands in the specific work contexts because of past help and experience. They are competent in the one situation but not necessarily in others ... (Again), the language, literacy and numeracy demands of training are usually much greater than those of the workplace.*
>
> (Fegent, 1993, p.3)

The above comments make it clear that what is paramount is that training and assessment, on or off the job must take into account language and literacy issues at the same time as the training and assessment is developed, rather than adopting a remedial approach, 'after the event'. Some industries, for example food manufacturing, have employed a literacy project officer to ensure that their on-site training and assessment takes into account the language and literacy

needs of the workers in that industry. The National Food Industry Training Council is funding a project to 'map' their core curriculum against literacy and language needs.

One important aspect of testing an assessment instrument's validity is in fact whether it is assessing a person's writing skills as opposed to their knowledge of the subject. Some participants in this research were aware of this and allowed learners a choice of assessment method in the answering of theory questions. This trend needs to be encouraged. We also need to be able to answer the critics who say that oral assessments are not as reliable as written ones by providing training for assessors which includes specific information on how to conduct an oral assessment so that there is consistency of results between candidates. A move towards reducing the assessment load by assessing 'larger chunks' of learning will also be of benefit to students and teachers. It allows 'teachers to prepare students more fully for the type of assessment. They can provide models of explanations, procedures or essays' (Fegent, 1993 p.5).

In general, training courses need to train competency standards writers, curriculum designers, assessment task writers and resource writers in strategies that allow for students' language, literacy and numeracy needs.

Enterprise and industry standards

Several issues have emerged from this research concerning enterprise and industry standards that are generally relevant to the on-going development of CBT and CBA. One concerns the transferability and portability of competencies based on enterprise-specific standards. Several enterprises from the case studies have developed their own standards (where there are no industry standards yet), one based on the company's standard operating procedures. This company indicated that it was aware of the necessity for their competencies to be sufficiently broad to allow for portability within their industry. We suggest that research needs to be undertaken to ascertain how successfully this has been accomplished. If the research reveals that competencies gained through enterprise-specific standards are not being recognised by other enterprises, then this would be of concern generally and particularly to the National Training Board who are endorsing enterprise as well as industry standards.

The second (related) issue worthy of mention concerns the inevitable differences between companies in interpreting their industry standards, depending on where they place themselves within their industry. For instance, the National Training Board indicates that it is acceptable for a 'leading edge' company to develop its own standards which are 'above' those laid down for the industry as a whole and which may require a considerable upskilling of its whole workforce (NTB, 1992).

Clearly there must be scope within the National Reform Agenda for differing interpretation of the standards between enterprises. However,

it does raise questions that need further investigation; for example how can one ensure that enterprises are assessing to the industry standards as well as their own? How will this be recorded?

If Australia is moving in the direction of increased flexibility in its approach to national standards and the content of training, then it has been argued that there should be a high priority for 'State Training Authorities ... (to foster) at a local level communication, networking and information sharing between employers, and between employers and training providers on the ways in which skills be assessed effectively' (Dusseldorp Skills Forum, 1993, p.31). This would not appear to be occurring at the present time.

Assessment instruments

This project initially focussed on locating exemplary competency-based assessment instruments. However, as the introduction indicates, there were changes made to the project methodology to include a broad range of assessment issues as well as the instrument itself.

Considerations of context and purpose, cost, validity, reliability and accountability all play their part in determining which assessment methods and instruments will be used. The research and case studies revealed that improvement could be made in many assessment instruments currently in use. It is possible to recommend that:

- assessees are presented with clearly spelled-out instructions on what the assessment will include and evidence required (increasing the transparency of the assessment);

- assessors have clear guidelines on preparing and conducting the assessment and recording the results;

- a more *explicitly* holistic approach be used in on-the-job assessment;

  We have used the word 'explicitly' here to indicate that although we think that non technical skills (e.g. problem solving) are probably being assessed, albeit unconsciously, it would be more equitable if these skills which are now recognised to be so crucial in the workplace and thus in training and education, were more clearly articulated.

- checklists be used in a more integrated way;

  That is, having fewer items to tick off by clustering groups of skills and knowledge that make up a procedure or a product on the assumption that the whole—product, process—is greater than the sum of its parts. Less extensive checklists will save time and be less costly.

- a variety of assessment methods and tasks be included when gathering evidence of competence (this may include self and peer assessment);

- workplace assessors should have an understanding and knowledge of the principles of adult learning;

  This they can then apply to the entire assessment process, but particularly by involving the trainee in decisions about assessment methods.

- more responsibility be given to learners to collect their own assessment evidence.

THE CASE STUDIES

ORGANISATION	COURSE MODULE	DELIVERY MODE	ON/OFF JOB ASSESSMENT	SUMMARY OF ASSESSMENT
Case Study 1 Canberra Institute of Technology	Certificate in Adult General Education - *Data Organisation and Chance*	Self-paced learning materials, access to Individual Learning Centres plus attendance at tutorials.	Off-job	**Formative** - Self-assessment activities at end of each section of module. **Summative** - Assessment consists of one assignment, a project in three parts, completed progressively as students work from module.
Case Study 2 Stanwell Skills Development Program, Rockhampton	Engineering Production Certificate - *Insulation Practices*	Self-paced learning materials, optional attendance at classes plus on-going assistance from instructor.	Both	**Formative** - Self-assessment activities (theory + practical) at end of each section/learning outcome. **Summative** - Assessment per learning outcome. Combination of theory + practical observation. Trainees have choice of assessment method for theory assessment.
Case Study 3 NSW TAFE Commission	Build a Job - *Scaffolding Limited Height*	Whole course has training on + off-job. First six months entirely off-job in a TAFE.	For this module - Off-job	**Formative** - Two 'practices' at practical tasks, including informal questioning from teacher. **Summative** - Three separate tasks (one learning outcome) simulating workplace. Assessment instruments clearly set out for learner + assessor.
Case Study 4 Queensland Magnesia (Operations) Pty Ltd	(Modules do not comprise a course) - *Preconcentration*	Self-paced learning materials (written, video, computer-based). Learners also access a mentor, who is a peer.	On-job	**Formative** - Self-assessment activities + 'competency checks' at end of each section of module. **Summative** - Observation of performance over a number of shifts. Instruments based on Australian Quality System Work Instructions for QMAG.
Case Study 5 Building Industry Skills Centre, Sydney	An RPL assessment process for applicants of a Gold Contractors Licence; in this instance in *Carpentry and Joinery.*		Off-job	Assessment occurs over one day, includes multiple choice/short answers - written or oral for the theory and performing a number of simulated work-place tasks based on Building & Construction Industry's national competency standards.

ORGANISATION	COURSE MODULE	DELIVERY MODE	ON/OFF JOB ASSESSMENT	SUMMARY OF ASSESSMENT
Case Study 6 Canberra Institute of Technology	Certificate in Public Administration (APS) - *Planning and Organising for Results.*	Three days learning in TAFE, a three week break to complete projects, another day in TAFE at end of module.	Off-job	**Formative** - Short written exercises. **Summative** - Two projects (one for each learning outcome) that relate to learners particular workplace (Commonwealth Government Agency) which workers are expected to complete with support from workplace supervisor.
Case Study 7 Regent Hotel, Sydney	ACCESS Program - *Restaurant Service Basic Level.*	Training materials recently developed, on-job training occurs from supervisor.	Both	**Formative** - Occurs informally, on-the-job. **Summative** - *Theory* - by question and answer. *Practical* - observed role play or 'real tasks'.
Case Study 8 B.H.P. Coal Australia	Certificate in Occupational Health & Safety & Welfare - *'Prevent Discrimination & Provide Equal Opportunity.*	Self-paced through learning materials. Assessor available for support.	Off-job	**Formative** - Written answers to three questions relating to the elements in the module. **Summative** - Long one-to-one interview with assessor who asks enough questions to satisfy herself that the learner is competent (based on learning materials + learner's job).

Case study 1:
Certificate in Adult General Education

Background
The Certificate in Adult General Education (CAGE) was developed in its current delivery mode in 1992 and first implemented in 1993. It is Year 10 equivalent. The course has changed from delivery through classroom teaching to being delivered in open learning mode through self-paced learning materials. The reason for the change was that the large numbers of mature aged students (at whom the course was aimed) were not able to commit themselves to regular class attendance. The students expressed a need for flexibility in attendance. However, it has been found that this mode of learning is not always suitable for those early school leavers who are not independent learners. Thus, another course is currently being developed as a 'feeder' to CAGE which will be offered in a range of delivery modes, including face-to-face teaching.

Organisation
Canberra Institute of Technology (CIT).

Course
Certificate in Adult General Education (CAGE).

Module and its assessment
This module, 'Data organisation and chance', is one of six in Group B, the Mathematics stream. Nominal duration 18 hours, including two compulsory tutorial sessions.

The assessment task consists of an assignment, one project, divided into three parts which corresponds to the three learning outcomes in the module.

Context
RPL is available for this and a range of other modules in the course.

The course articulates to Year 10 entry certificate courses, pre-tertiary studies and other Year 12 certificate courses in TAFE.

Assessor
The assessor is the tutor for the module.

Students have access to the tutor through the Independent Learning Centre at the campus they choose to attend.

Pre-assessment
Two tutorials are compulsory and other scheduled tutorial times are available for students to attend if they need assistance with the learning materials and/or the assessment task. It is expected that students will spend three hours at tutorials as well as the 12-15 hours on the work and assessment. The compulsory tutorials are

used to check on students' progress, address any difficulties and check on the progress of the assignment.

Students are also expected to discuss with their tutor the plan they are using to collect and organise their data for their assignment, before sending it in to be assessed.

Post-assessment feedback
Students discuss each part of the assessment project with the tutor/assessor. If it is not satisfactory, they are given feedback as to why not and asked to do it again. Repeating whole assignments does not occur because of the checks that are made on the student's progress throughout the module.

Recording of results
Results of assessment tasks are recorded in a roll book.

Literacy and language
Students must do an entry test before commencing the course. It consists of an English and Maths test of identified skills.

It is expected that students' reading and writing levels will match that which is required for the learning materials and assessment tasks.

There is tutorial support available for students from non-English speaking backgrounds who need assistance.

Assessment instruments

Formative assessment and learning materials
The learning materials are accessible in their visual and written presentation and instructions. They are divided into seven topics with several activities (self-assessment) at the end of each section with answers at the back of the book. The instructions which appear throughout the book leave no doubt as to what is next expected of the student, including at what point to begin the module assignment.

Summative assessment
The summative assessment is done through a three part assignment or project which has been designed to be part of the learning process. Each part relates to one of the three learning outcomes of the module. Part one on presenting data is a separate piece of work. However Parts two and three of the assignment are integrated, with Part three 'Chance and probability' asking the student to interpret the data collected and organised for Part two 'Analysing large amounts of data'.

The assignment document too, is well-presented, with unambiguous instructions to the students as to what is expected of them and how to proceed with the assignment, including an obligation to check their progress with the tutor before proceeding

further. It is estimated that the assignment could take the student up to a quarter of the time spent on the entire module.
Students have to meet all the assessment criteria in the module. As a result of the current trialing of the modules in CAGE, guidelines are being developed for teachers on how to assess under a CAT curriculum. During the trials teachers have ensured that the learning outcomes/assessment criteria have been met in the assessments, by holding moderating meetings.

Authenticity and reliability
Concerns have been expressed by teachers about the possible lack of authenticity of assignments—that is, there is a worry that students may ask someone else to do them, or borrow another student's. (This has occurred). When the assignment is the only piece of evidence collected in the module, this possibility raises doubts about the reliability of that evidence. Therefore teachers have instituted a 'back-up', (not part of the formal assessment or reflected in the learning outcomes)—namely, during the compulsory tutorials, students do an oral 'work in progress interview' in which they have to explain the processes they are using to complete their assignments. This is one method of ensuring that the assignments are authentic.

The assignment is endeavouring to relate the statistical study with a real-life situation based on the student's own experiences and interests. Thus, although students do not choose the method for undertaking the assessment, they are able to choose the specific topics they wish to use for their investigations. However, the comment was made that in a course such as this, there is no opportunity for teachers to see how (if) people are using these skills (of data organisation and chance, in this instance) in everyday life.

Comments
This module was selected as an example of a holistic assessment task based on an alternative delivery mode (self-paced) in a course for pre-vocational students for whom face-to-face teaching has usually been the norm in TAFE.

The assessment, an assignment, assesses all the learning outcomes covered in the module through content that aims to relate to the experiences and interests of the individual student. Another feature of the assessment is the built-in back-up for each student from TAFE teachers so that it should not be possible for a student to reach the end of the module and thus the assignment and discover that they have not achieved satisfactorily.

MODULE TITLE	**MATHEMATICS 3: DATA ORGANISATION AND CHANCE**
Nominal Duration	12 hours
Module Code or Number	N/A
Module Purpose	The purpose of this module is to develop data collecting, organising and interpretation skills based on everyday experiences and tasks.
Relationship to Competency Standards	N/A
Prerequisites	Mathematics 2: The Rational Number System
Summary of Content	1. Methods of collecting data 2. Organising data in tabulation/graphical form - central tendency - descriptor - data spread 3. Chance
Delivery	This module will be delivered in Open Learning mode using self-paced learning materials.
Learning Outcomes	
Learning Outcome 1	On completion of this module the learner will be able to: collect, organise and present data for everyday purposes.
Assessment Criteria	1. Select a data collection process appropriate to an everyday context 2. Collect the data using the selected process

3. Present the data in an appropriate tabulation

4. Select a suitable graphical representation

5. Display an alternative representation of the same data, where applicable

Conditions

Equipment: Calculator

Facilities: Classroom or Individual Learning Centre for tutorials and assessment

Materials: Self-paced learning package

Assessment Method See Learning Outcome 3

Learning Outcome 2 On completion of this module the learner will be able to:

summarise data using a measure of central tendency.

Assessment Criteria

1. Calculate and interpret the mean, median and mode as measures of central tendency

2. Define the range

3. Select and justify the most appropriate measures that describe the given data

4. Relate positions of measures of central tendency and range to frequency representations of the data where appropriate

Conditions

Equipment: Calculator

Facilities: Classroom or Individual Learning Centre for tutorials and assessment

Materials: Self-paced learning package

MATHEMATICS 3: DATA ORGANISATION AND CHANCE

Assessment Method	See Learning Outcome 3
Learning Outcome 3	On completion of this module the learner will be able to: compare and outline the roles of chance and probability in everyday situations.
Assessment Criteria	1. Identify situations in which chance and/or probability can affect outcomes 2. Calculate the probability of an outcome in simple everyday situations 3. Represent possible outcomes graphically where appropriate
Conditions	
Equipment:	Calculator
Facilities:	Classroom or Individual Learning Centre for tutorials and assessment
Materials:	Self-paced learning package
Assessment Method	Assignment Work-in-progress interviews

Suggested Learning Resources:

Mathematics

Module 3: Data organisation and chance

ASSIGNMENT

Part 1 – Presenting data

Find 3 graphs of different types in newspapers, magazines or books.

1 Photocopy or cut out the graphs and paste below. Name each type of graph you have selected.

2 Comment briefly on how effectively each graph displays the information it is supposed to show.

a _____

_____

b _____

_____

c _____

_____

3 Present the information given in one of the graphs you have chosen, in a different graph type, eg you may choose to show information in a newspaper bar graph in a circle or line graph.

Assignment Cover Sheet

Please fill in shaded boxes 1 and 2.

BOX 1
Name:
Student Number:
Address:
Phone number:

BOX 2
Module name and number:
Date submitted:

BOX 3	
(For teacher use only)	
Teacher's name:	
Date marked:	
General comments:	
Meets required standard:	Yes/No
Needs to resubmit:	Yes/No
Photocopied cover sheet?	Yes/No

Write your answers on the sheets that follow and hand in to your teacher.

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Part 2 – Analysing large amounts of data

This is the major part of your module assignment. It involves collecting, organising and analysing data, then using your findings to draw some conclusions and make predictions.

This assignment will provide all the assessment required for this module so, it is extremely important that you have understood the mathematics covered so far.

At this stage you need to decide on **a topic** for your statistical study. Your topic will provide a focus for gathering the data. You should now arrange a time to see your teacher to discuss your choice of topic and data collection method.

Some suggestions you may consider:

- Weekly house rental prices in Canberra
  Note: round rentals to the nearest $10
- Length of advertising breaks on commercial TV
- Totals received by rolling three dies
- Occurrence of numbers coming up in Tatts lotto or Lotto

  or
- Any study you would like to do

Remember, it is important that you consider and **record**

- where your information came from
- how you collected your information
- the size of your sample.

Collect your data now and present it on the following pages under these headings:

A raw data form, as you collected it

B tabulation form

C graphical form, ie as a frequency graph of information in the tabulation.

Keep the source of your data, eg the newspaper from which you obtained the weekly house rentals, it will need to be included in your assignment.

The last part (Part 3) of the assignment should be worked after you complete the final section on chance and probability. It will involve analysing the data you have just collected so keep Parts 1 and 2 together until you can use it to complete the data analysis and hand in with Part 3.

Assignment Cover Sheet

Please fill in shaded boxes 1 and 2.

	BOX 1
Name:	
Student Number:	
Address:	
Phone number:	

	BOX 2
Module name and number:	
Date submitted:	

(For teacher use only)	BOX 3
Teacher's name:	
Date marked:	
General comments:	
Meets required standard:	Yes/No
Needs to resubmit:	Yes/No
Photocopied cover sheet?	Yes/No

Write your answers on the sheets that follow and hand in to your teacher.

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Part 3 – Chance and probability

Take out the data you collected and organised for Part 2 of the assignment.

You will be assessed on your interpretation and use of your results.

Before beginning this part or as you work through it you **must** contact your teacher to discuss your progress.

Note: Brief answers only are required for questions 3, 4 and 5 below.

	Working column
1 For your data calculate a the median = b the mean = c the mode = d the range =	

2 Show these measures of middle value on the frequency graph you constructed in part 2.

3 Which measure/s of central tendency (middle value) best describe the data you collected? Give reasons to support your answer.

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4 What predictions could you make from your analysis of middle value of the data you collected?

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.....

.....

5 What part does chance play in the accuracy of your predictions? How could you have improved the accuracy or reliability of your results?

.....

.....

.....

Now send all parts of your assignment to your teacher.

If your assignment indicates a good understanding of the material covered in this introductory statistics module you will have completed this module.

Well done!

Case study 2:
Stanwell Skills Development Programme (SSDP)

Background
The Stanwell Skills Development Programme (SSDP) is a training organisation established to provide training for the construction workforce and for workers in the local community at the Stanwell Power Station just outside Rockhampton, Queensland. SSDP has been providing training since September 1989.

The aims of SSDP include a co-operative approach by the Queensland Electricity Commission—the client, the unions, workers and contractors—to maximise the involvement of local labour in the acquisition of skills during the construction of the power station.

It was a Queensland Electricity Commission initiative and is substantially supported by them with assistance from industry. The program also received a grant from the Commonwealth Department of Employment, Education and Training to develop and pilot building and engineering training modules.

In addition to running programs from the Engineering Production Certificate, SSDP provides entry level training, trade training, advanced certificate/associate diploma training, non-trade training, licensed training and prescribed occupation training.

Course
Engineering Production Certificate.

Occupation
Insulation laggers, ASF level 2.

Credential
Learners completing this module receive a statement of attainment from Rockhampton TAFE. This module is one from the nationally accredited Engineering Production Certificate, the only accredited training program for insulation laggers.

Module and its assessment
Insulation practices (40 hours nominal) EPC 151.

Assessment is done per learning outcome and consists of a combination of on- and off-the job, practical and theory. For the theory component, trainees are given a choice of three assessment methods.

The module is self-paced. The SSDP have developed their own study manual to accompany the module. As well, learners can attend classes (not compulsory) at the Stanwell Skills Centre, held on six occasions. Practical sessions at the Stanwell site are conducted at the skills centre and on contract projects. Some learners attend the classes and practical sessions constantly and so complete all learning outcomes in a short time. Others require

additional time and support until all the learning outcomes successfully completed.

Context of assessment
Workers may be assessed for this module through the Recognition of prior learning. The module is run for learners working both on- and off-site and is for people with little or no basic skills in fundamental insulation practices.

The purpose of the module is primarily to increase the standard of work carried out on projects on the Stanwell Power Station site.

Learners doing this module may not have been in a formal learning situation for many years.

The award classification structure at Stanwell Power Station does not link pay rises to skills acquisition—that is, workers are not monetarily compensated for undergoing training.

The assessor
The trainer/instructor in this module is also the assessor. The instructor has to satisfy the requirements of the human resources statement for delivery of the module; that is, a minimum number of years in industry, qualifications exceeding the level of the qualification being delivered and minimum instructional skills gained through a train the trainer course or TAFE's Basic Methods of Instruction (for part-time teachers).

Instructors make themselves available throughout the working day to assist trainees with any aspect of the module.

Pre-assessment
Learners receive an induction to the module individually where they are given the study manual and are made aware of the criteria for 'passing' the module. They are required to be 100% competent in the on-the-job component and 80% in the theory component excepting safety where they have to be 100% correct in their answers. Learners can be assessed on any section (the learning outcome) whenever they feel competent to do so. (See under 'Assessment instruments' for details of assessment design).

Post-assessment feedback and re-assessment
The assessor discusses the assessment with each learner on a one-to-one basis and explains, if necessary, why the assessment was not successful. They can be re-assessed as many times as they need within a reasonable intervening period of time mutually agreed between assessor and assessed.

Recording of results
Results are recorded in a number of ways. The learner keeps a log book, signed per learning outcome by the assessor. (There is an onus on the assessor to be absolutely sure that the learner has reached competence since he will be held responsible for any

problems that may arise in the future regarding the skills of the trainee.) As well, there is a one page assessment record for the assessor listing results, per learning outcome, of each theory 'test paper'.

Appeals
Learners may appeal their results by going to the metal and engineering panel on-site. It consists of a representative from the industry, the union, the local TAFE and the SSDP. This panel meets to discuss SSDP's training program, receives reports on the progress of students through modules/courses and performs as an assessment panel in facilitating RPL for other modules/courses.

Assessment instruments
Assessment is done separately for each learning outcome. Learners may test out when they feel they have mastered each section (of the study guide) or against the module as a whole. Learning outcomes are to be assessed by either a theory or practical component, or both.

Formative assessment and study guide
Formative assessment activities, self-assessed, occur within the study manual at the end of each section or learning outcome. They are not 'compulsory', but learners are encouraged to complete them since they give themselves and the instructor information about their progress. Most activities, as the example shows, contain a theory and a practical component. They relate directly to the material in the preceding section and were designed to develop study skills in trainees who are not used to learning from print materials.

For example, in the learning outcome 'Insulation materials' assessment activities, there is one theory and one practical (see pages 52–53). The trainee is given all the information on identification, classification, weight, cost and application in the theory activity and is then asked to identify and list an application for each material. This assessment is done by either:

- The trainee identifying and naming the application of the material from a selection of six samples at the skills centre.

- The trainee identifying and naming the application of the material in the workplace. This could occur as part of the trainee's task of preparing to insulate a component of the turbine or boiler. It is thought that the trainee might be more comfortable in the familiar surrounds of the workplace and so be able to attain a better result during assessment.

The study guide is written in plain English and is clearly presented with large headings, bold text, key words in margins, boxes around words, activities and headings and 'instructional icons' to signal activities to complete and to identify key points.

Summative assessment
Summative assessment occurs both on and off the job, with a mix of 65% (on) to 35% (off) the job.

The on-the-job assessment is a combination of the performance criteria which are observed and validated by the instructor/assessor on the job. Assessment occurs when the learner feels ready (after sufficient practice and training) to be assessed (either on one learning outcome or the whole module). The curriculum (or SSDP) does not stipulate the number of times a learner needs to be observed performing a particular task in order to be deemed competent in it. It is left to the professional judgement of the assessor to ascertain.

The instrument for the off-the-job component consists of a series of written assessments relating to each learning outcome. They are not multiple choice but clear, concise, direct questions with open time available to complete them and assistance given in writing the answers if necessary (see page 54-55).

If the learner is not able to answer these questions in writing, they may be taken orally. They have been written in such a way as to make them suitable to be asked verbally. As well, a combination assessment method of oral and demonstration (on the job) is allowable so that the learner can illustrate the answer (to a theory question) by practical demonstration.

Literacy and language
Interpreters are permitted during the assessment process. The above discussion on flexible assessment methods illustrates that the SSDP is attempting to address the needs of their workers with limited literacy skills. However, the learning materials are text-based and despite their plain English focus, they would provide difficulties for some learners.

Reliability and validity
The SSDP is constantly reviewing the assessment instruments (and the learning materials) to ensure that they reflect the performance a person needs to be competent. Since they were first developed, their emphasis has changed to be more focussed on 'doing' the performance, rather than the theory. Since the module purpose is practically oriented, this focus ensures greater validity of the instruments.

Comments
The overriding philosophy in the SSDP training and assessment is that the learner will produce the best results if they are able to choose an assessment method they feel most comfortable with. This is particularly significant since many of their trainees (as in other workplaces) are people who have worked for many years without any formal qualifications. The SSDP acknowledges the anxiety, returning to a formal learning environment can cause, and are

endeavouring to make the learning process as stress-free and integrated with the assessment process as possible by for example:

- selection of assessment method which can integrate the theory and the practical;
- combining on- and off-the-job training and assessment;
- combining self-paced learning and self-assessment with an instructor on-site and available to assist trainees in their learning;
- providing clear and accessible learning materials.

TAFE METAL AND ENGINEERING NATIONAL CURRICULUM PROJECT

ENGINEERING PRODUCTION CERTIFICATE MODULE

MODULE: INSULATION PRACTICES (EPC151)

PURPOSE: The purpose of this module is to develop the knowledge and skills in insulation practices.

NOMINAL DURATION: One Module

This module is designed on the assumption that most students will achieve the competencies specified in 35 to 40 hours.
The length of time taken to complete a module will vary depending on factors such as teaching methods used, knowledge and skills on entry and the individual student's ability.

PREREQUISITES: Instruction in Occupational Health and Safety associated with Insulation Practices and compliance with relevant state or territory regulations and Codes of Practice.

LEARNING OUTCOMES: On completion of this module the student will be able to:

1. Identify safe working practices in the installation of insulation materials including the use of Material Safety Data Sheets (MSDS).
2. Explain the purposes of thermal and acoustic insulation in industry.
3. Demonstrate various techniques for determining shape and size of insulation materials for specified practical industrial applications.
4. Identify the various types of insulation materials used within the industry and list the types suitable for a variety of specified practical applications.
5. Identify the various fixing and joining methods applicable to each type of insulation material.
6. Demonstrate how to measure, cut and fit insulation materials for various industrial applications.

STUDENTS SHOULD BE MADE AWARE OF OCCUPATIONAL HEALTH AND SAFETY ISSUES IN ALL SITUATIONS AND BE EXPECTED TO DEMONSTRATE SAFE WORKING PRACTICES AT ALL TIMES.

OUTLINE OF CONTENT:

This module contains:

1. Potential Workplace Hazards
   - working at heights
   - safety signage
   - confined space
   - industrial housekeeping
   - personal safety
     - protective clothing
   - Material Safety Data Sheets (MSDS)

2. Insulation Requirements
   - thermal efficiency
     - hot
     - cold
   - thermal acoustics
   - personal protection

3. Insulation Practices and Procedures
   - skill areas
   - techniques
   - shaping

4. Materials
   - fibreglass blanket (plain or faced)
   - fibreglass sectional pipe insulation
   - rock wool blanket (plain or faced)
   - rock wool sectional pipe insulation
   - calcium silicate (asbestos free)
     - block segments sectional pipe insulation
   - reinforced laminated aluminium foil
     - sisalation and thermal foil
   - rigid cellular plastics (EPS)
   - elastomeric insulation (flexible)

5. Fixing Methods
   - speed clips
   - tape
   - straps and buckles
   - mastic coatings

6. Installation
   - marking
   - cutting
   - hand tools
   - fixing to curved, flat and irregular surfaces
     - pipe flanges
     - valves
   - safe working practices

ON-THE-JOB TRAINING:

For consolidation the material in this module should be linked with and complemented by relevant on-the-job skill practice or other equivalent experience.

PERFORMANCE CRITERIA: The criteria for each learning outcome should be:

Learning Outcome 1

Assessment: Short answer questions.

Performance:

a. Describe potential hazards within the insulation industry.

b. Demonstrate knowledge of safe working practices by outlining the safety procedures required for various practical applications.

c. Use and interpret Material Safety Data Sheets (MSDS) in the handling and use of specified insulation materials.

Learning Outcome 2

Assessment: Short answer questions.

Performance:

a. List the reasons why insulation is required for thermal and acoustic purposes.

b. List desirable properties of thermal and acoustic insulation materials.

Learning Outcome 3

Assessment: Short answer questions/practical exercises.

Performance:

a. Demonstrate various techniques for determining shape and size of insulation materials for specified practical industrial applications.

Learning Outcome 4

Assessment: Short answer questions/practical exercises.

Performance:

a. Identify and list various types of insulation materials suitable for a variety of specified practical industrial applications.

b. Select and match various types of insulation materials to appropriate specified practical applications.

Learning Outcome 5

Assessment: Short answer questions/practical exercises.

Performance:

a. Identify and list various joining methods applied within the insulation industry and which are suitable for various practical applications.

b. Identify and list various fixing methods applied within the insulation industry and which are suitable for various practical applications.

Learning Outcome 6

Assessment: Short answer questions/practical exercises.

Performance:

a. List the tools required to install insulation.

b. Demonstrate how to measure, cut and fit insulation materials for various industrial applications.

c. Demonstrate safe working procedures when cutting and fitting insulation materials.

ADDITIONAL INFORMATION:

1. **SUGGESTED TEACHING/LEARNING STRATEGIES**

This module is practical in nature and theoretically integrated to complement the acquisition of practical skills which have relevance to industrial applications.

Instruction should support and consolidate the safety requirements associated with the handling and use of insulation materials and associated tools and equipment.
The quality of the practical components performed will conform to acceptable industry standards.

The defined skills, specified standards and specified conditions of performance and assessment should be clearly outlined to the student and relates to the off-the-job component of training.

The estimated time allocation for each learning outcome is suggested as follows:

• Learning Outcome 1	4 hours
• Learning Outcome 2	6 hours
• Learning Outcome 3	4 hours
• Learning Outcome 4	6 hours
• Learning Outcome 5	10 hours
• Learning Outcome 6	10 hours

2. **SUGGESTED MINIMUM RESOURCES**

- Text
  - Company Product Information
  - SSDP Resource Package
  - QEC Construction Health and Safety Handbook
  - Standard on synthetic mineral fibres - Worksafe Australia
- Videos
  - Industry Training Videos
  - Company Training Videos

NOTE: Miscellaneous equipment, such as small tools, etc. have not been included in this list.

3. SUGGESTED ON-JOB TRAINING - FOR MAXIMUM SKILL ACQUISITION

Any supplementary skill practice relating to the 'hands-on' component would be beneficial.

The following supplementary practice should be applied where practicable:

- Continuous reinforcement of skills and knowledge through practical application.
- Identification and use of safe working practices in the installation of insulation materials.
- Use Material Safety Data Sheets (MSDS) to determine requirements.
- Use of various techniques for determining shape and size of insulation materials for specified practical industrial application tasks.
- Identify various fixing and joining methods applicable for a variety of insulation materials.
- Demonstrate how to measure, cut and fit insulation materials for various industrial applications.

Activity 3–1 : Insulation materials (continued) ▪▪▪

Which type of insulation material is described as flexible plus rubber–like?

.....

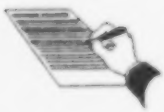
List two (2) ways of applying mastic coatings.

.....

.....

ACTIVITY 3–1 (Theory)

Insulation Materials



Having completed this *Section 3: Insulation Materials*, you should now be able to answer the following questions. Check your answers with the information listed earlier within this Section before moving on to the next Section.

1. Name three (3) applications for which fibreglass blanket is used.

2. Name two (2) materials used for sectional pipe insulation.

3. How many classifications are there for rigid cellular polystyrene?

4. List two (2) factors that a customer/contractor should consider before choosing an insulation material.

ACTIVITY 3–2 (Practical)

You will be given a set of six (6) samples of insulation material. You must correctly identify the name (not brand) and list an application for each.

1. .....

Application .....

2. .....

Application .....

3. .....

Application .....

4. .....

Application .....

5. .....

Application .....

6. .....

Application .....

SECTION 3: MATERIALS

3.1 What does the abbreviation LEI mean?

.....

3.2 Lightweight Equipment Insulation (LEI), is a trade name for:

(a) Rockwool (b) Fibreglass
(c) Polystyrene (d) Calcium Silicate

Ans...( )

3.3 Name two materials used for Sectional Pipe Insulation, SPI.

(i) .....
(ii).....

3.4 What is the typical standard length used to supply SPI?

.....

3.5 Name a suitable material used to insulate steam pipes.

.....

3.6 How many classifications are there for rigid cellular polystyrene?

.....

3.7 Describe a typical use for grade VH: Rigid Cellular Polystyrene.

.....

3.8 List two factors that a contractor/customer should consider before choosing insulation material for a job.

(i) .....
(ii).....

3.9 Which type of insulation material is described as flexible and rubber-like?

.....

3.10 The temperature rating for Calcium Silicate materials is .....

(a) up to 50 deg. C.
(b) up to 100 deg. C.
(c) up to 1 050 deg. C.
(d) up to 5 000 deg. C.

3.11 List two industrial applications for the use of Reinforced Laminated Aluminium Foil.

(i) .....
(ii).....

3.12 What would be the major advantage of using EPS polystyrene as an insulated material?

.....
.....

3.13 Which type of work is Elastomeric insulation most suitable for?

.....
.....

3.14 Write a short, 30 word, paragraph on the use of any type of insulation material. Discuss the applications, advantages and disadvantages of the material.

Material: .....

.....
.....
.....
.....
.....
.....
.....

Case study 3:
Build-a-Job project

Background
The Build-a-Job project is a pilot course which was proposed by the MBCHAA (Master Builders Construction Housing Association of Australia) at the Federal Government Youth Summit held in July 1992. Their aim was to develop a program that would provide trained people for the country's future building needs and to contribute to a positive outcome for a few of the thousands of unemployed youth. It is an innovative program for young people (between 16 and 20) unemployed for over six months. After the first six months at a college, students are employed by a builder and continue the course for another two and a half years, doing a combination of on- and off-the-job training.

The curriculum for the modules was developed for the National Building Modules as part of an AVC (Australian Vocational Certificate) pilot project by staff at Holmesglen College of TAFE (Melbourne). However, the assessment schedules and tasks were devised by the Building and Construction Training Division of NSW TAFE.

Organisation
NSW TAFE Commission, Building and Construction Training Division Course held at Miller College of TAFE (part of South-Western Sydney Institute).

Course
National Building Modules, Fit Out and Finish Stream.

Module and its assessment
Scaffolding Limited Height Module 1B.5 Nominal Duration 15 hours.

Assessment for this module consists of completion of three practical tasks demonstrating knowledge, skills and attitudes.

Occupation/ASF level
The course provides an introduction to the building industry. Students reach ASF 1 after six months work experience.

Credential
At the end of the first 18 week period, a statement of completion (transcript of results) is issued. At the end of the full course, three years, a tradesperson certificate will be issued.

Context of assessment
Assessment for the first 18 weeks is carried out at the college as the learners are not employed at this stage. Future assessments may be carried out on or off the job. All assessment relates to actual job skills.

RPL is available for this module, with the evidence collection based on the assessment criteria in the assessment packages.

Assessor
The assessor may be the teacher/trainer, but does not have to be. Another teacher may be introduced to carry out the assessment. This practice has been adopted at some colleges.

Pre-assessment
All learners are given copies of the details of the task and the assessment criteria which are to be read by the learner, or with the assessor, prior to assessment taking place.

Assessment criteria
The assessment criteria for the assessment tasks (page 66-67) which take the form of a checklist, reflect and build on the assessment criteria for the whole module (see page 61).

The assessment criteria for the task have been written to incorporate all aspects of the person's responsibility for doing the job of erecting a mobile scaffold and including attitudinal factors such as 'team co-operation' and 'methodical approach'.

Recording of results
The assessor has the formal record of results but all learners are given a record book to keep which is constantly being updated by the assessor. See example 'Learner's achievement record'.

Re-assessment
A set day and time is set aside for re-assessment. If unsuccessful on the second occasion, more instruction/practice is recommended.

Appeals
According to the teachers, learners rarely complain or feel they have been treated unfairly if they have set guidelines to follow with clear outcomes and tolerances stated, before being assessed.

Language and literacy
Team teaching may be arranged for people from non-English speaking backgrounds who need assistance with English. English tutorial support is available outside the classroom as well.

The literacy and numeracy requirements of the course are based on work expectations and usage.

People with disabilities
Students with learning difficulties or who are hearing impaired would receive assistance from specialists at the college. Visually impaired or physically disabled learners may have difficulty with practical aspects of the course, since the assessment criteria have not been written in such a way as to make reasonable adjustment for people with these kinds of disabilities.

Assessment instruments
Assessment methods and tasks are pre-determined with no input from the learners. However, they may be modified by the assessor to cater to the specific needs of the group.

Formative assessment
The brevity of the module limits the amount of practice a learner may have before the summative assessment, but at least two practices are recommended before a learner is assessed. (This would not be necessary if the learner could demonstrate proficiency after the first practice). During the practice sessions, each student is asked verbal questions in an informal manner relating to the underpinning knowledge required for the module, for example, relating to scaffolding regulations.

Summative assessment
Summative assessment tasks, as the example illustrates, are based on a simulated work site—without the same number of potential workplace safety hazards able to be included. In this module, there is one learning outcome and three holistic assessment tasks, in progressive order of difficulty. Both assessor and learner are provided with specific task details and assessment criteria which specify tolerances and the standard required to be achieved.

The assessment is carried out in groups of three (the teaching ratio for this module is 8:1). The assessor selects the composition of each group. The assessor is checking that each person is participating equally in the team work. The smaller teacher/student ratio allows the assessor to assess the generic criteria, for example, co-operating in a team and the safety factors, as well as the technical skills.

Comments
The assessment task in this case study is holistic in the sense that it incorporates the assessing of skills, attitudes and knowledge necessary to undertake a whole task. In this basic building and construction module, the assessment replicates a workplace task, although it must be completed 'under supervision', given the skill level of the students.

Another feature of this (and all others) assessment task is the clear guidelines it provides to assessors on what is required of them and clear and specific 'instructions to learners' on purpose and method of the assessment, the tools and equipment needed and the time allocated. Preliminary evaluation of this course (semester 2, 1993 has been its first 'run') indicates that students see the value of knowing in advance the criteria and conditions under which they are to be assessed and are far less likely to feel that they have been unfairly assessed.

Since this is a pilot program, it is likely that changes will be made, particularly in the area of assessment where there are too many assessment tasks per (short) module for the students to achieve well and the teachers to administer. As well, this is an entry-level

course for school leavers with no experience in the building and construction industry. As such, it is unrealistic to expect to reach the same standard set by the industry's performance criteria as a worker already employed in the industry.

The structure of the course as a whole combines on and off-the-job training and assessment and will involve partnerships between the TAFE college running the course and individual builders who have agreed to employ the students. Unfortunately, at this present time, the continuing recession in the building industry means that employers are more reluctant to take on a trainee, than they would be if economic times were buoyant.

STAGE 1B
INDUSTRY INDUCTION
GENERAL SKILLS

MODULE TITLE	SCAFFOLDING LIMITED HEIGHT
Nominal Duration	15 Hours
Module Number	1B.5
Module Purpose	To erect scaffolding to 6 metres under supervision of a qualified person.
Relationship to Industry Competencies	
Pre-requisites	• Modules 1A 1 and 1A 4. • A trainee may seek recognition through the R.P.L. process for competencies already held.
Summary of Content	• Limited height scaffolding.
Delivery	Delivery methods must provide for the demonstration of competence in skills specified in all the learning outcomes, either in on-site or simulated on-site conditions.

LEARNING OUTCOME Erect Limited Height Scaffolding under supervision.

Number 1B.5.1

erect and dismantle limited height scaffolding under supervision of a qualified person.

Assessment Criteria

- For a specified scaffold design, scaffolding required quantified.
- Site prepared prior to erection.
- Erection carried out in accordance with Scaffolding Act 1991, Scaffolding Regulations 1974, AS 1576.3-1991 and manufacturers requirements.
- Dismantling carried out in accordance with safe work practices and manufacturers requirements.
- Scaffold components checked and stored for future use.
- All work practices must ensure that current O H & S requirements are adopted.

Conditions

- Learners will require access to a full range of scaffolding components and associated tools, together with manufacturers specifications.
- Copies of Australian Codes and Regulations together with local statutory requirements and access to a range of scaffolding designs.

Assessment Method

Under supervision:

- A practical exercise to erect scaffold in accordance with the assessment criteria.
- Approved Assessor.

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FITOUT AND FINISH
MBCHAA (PILOT COURSE)
ASSESSMENT PACKAGE

MODULES 1B.5

SCAFFOLDING
LIMITED HEIGHT

COVER PAGE

Purpose of Assessment:

To enable learners to demonstrate their skills and knowledge in planning, erecting and dismantling scaffolding systems up to 6m, to Workcover requirements and Scaffolding regulations, while under the supervision of a qualified person.

Assessment Tasks:

1. Erect a perimeter guard rail to an excavation (tube and couplers).
2. Erect a pre-fabricated scaffold (modular type proprietary brands)
3. Erect a mobile scaffold (lightweight access type).

Relation of Tasks to Learning Outcomes:

LEARNING OUTCOMES	TASK 1	TASK 2	TASK 3	TASK 4
1B5.1	Yes	Yes	Yes	

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FITOUT AND FINISH
(MBCHAA PILOT COURSE)

ASSESSMENT PACKAGE

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MODULE 1B.5

SCAFFOLDING
LIMITED HEIGHT

TASK NO. 3 - MOBILE SCAFFOLD (LIGHTWEIGHT)

GUIDELINES FOR ASSESSOR

This task requires learners to work in **groups of three** to erect a mobile lightweigt scaffold to a height not exceeding 6.0m.

This is a final product assessment and observation of procedures in safe practice, method of assembly, housekeeping and efficient work planning should be carried out.

The task is to be assessed by means of the Assessment Criteria Sheet and must comply with scaffolding regulations and Worckcover requirements.

Materials, Equipment and Work Area:

Provide all scaffolding tools and equipment as detailed on the Task Details. A clear level area approx. 70m^2 is required with headroom in excess of 8.0m, allowing up to 5 groups to be assessed at one time.

Time Allocated:

3 hours - including assembly, dismantling, stack and tidy the work area.

70

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MBCHAA (PILOT COURSE)
ASSESSMENT PACKAGE

DRAFT

MODULES 1B.5

SCAFFOLDING
LIMITED HEIGHT

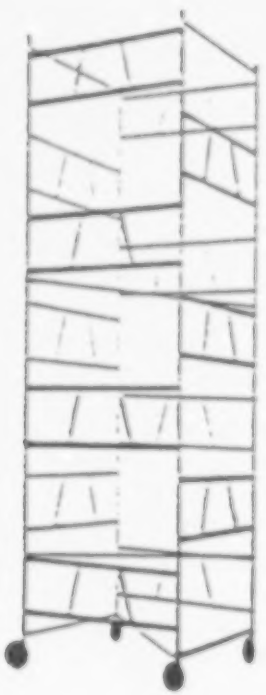
TASK NO. 3 - PRE-FABRICATED MOBILE SCAFFOLD

INSTRUCTIONS TO LEARNER *(Page 2 of 2)*

Task Details:

Maximum time allowed = Three Hours

Construct a lightweight mobile scaffold to instruction given by the Assessor and the specification listed below:



MOBILE SCAFFOLD

- Deck to be fully covered with planks.
- Handrails and toe boards fitted.
- Braces positioned and fixed.
- Ladder access internal.
- Workplace cleaned and materials stacked after scaffold is pulled down.

FITOUT AND FINISH
MBCHAA (PILOT COURSE)
ASSESSMENT PACKAGE

DRAFT

MODULES 1B.5

SCAFFOLDING
LIMITED HEIGHT

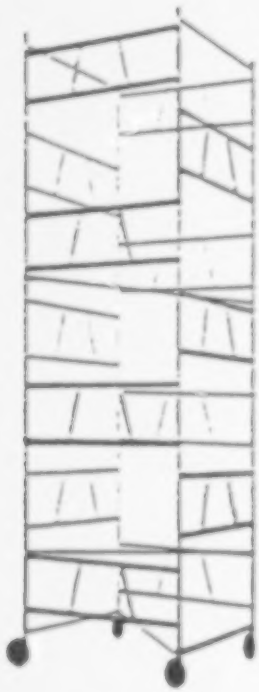
TASK NO. 3 - PRE-FABRICATED MOBILE SCAFFOLD

INSTRUCTIONS TO LEARNER (Page 2 of 2)

Task Details:

Maximum time allowed = Three Hours

Construct a lightweight mobile scaffold to instruction given by the Assessor and the specification listed below:



MOBILE SCAFFOLD

- Deck to be fully covered with planks.
- Handrails and toe boards fitted.
- Braces positioned and fixed.
- Ladder access internal.
- Workplace cleaned and materials stacked after scaffold is pulled down.

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FITOUT AND FINISH
MBCHAA (PILOT COURSE)
ASSESSMENT PACKAGE

DRAFT

MODULES 1B.5

SCAFFOLDING
LIMITED HEIGHT

TASK NO. 3 - MOBILE SCAFFOLDING LIGHTWEIGHT

ASSESSMENT CRITERIA (Page 1 of 2)

Learners will be assessed as members of a **team of three.**

Assessment Criteria	*Achieved*
1. Quantities of components are calculated and stacked prior to assembly.	☐
2. Area is cleaned and set out for assembly.	☐
3. Methodical approach to assembly is evident.	☐
4. Scaffold is assembled with due regard for own safety and safety of the group.	☐
5. All fittings are attached, secured and fastened.	☐
6. Components are dismantled with safety, checked and stored for future use.	☐
7. Team co-operation is displayed throughout.	☐

TAFE NSW

DRAFT

FITOUT AND FINISH
MBCHAA (PILOT COURSE)
ASSESSMENT PACKAGE

MODULES 1B.5

SCAFFOLDING
LIMITED HEIGHT

TASK NO. 3 - PRE-FABRICATED MOBILE SCAFFOLDING

ASSESSMENT CRITERIA *(Page 2 of 2)*

Learners will be assessed as members of a **team of three.**

Assessment Criteria	*Achieved*
8. Scaffold wheels are locked when using scaffold.	☐
9. Deck is fully planked.	☐
10. Handrails and toe boards are fitted.	☐
11. Internal ladder access and landings are provided.	☐
12. Finished scaffold complies in all respects to AS1576-1991 and Scaffolding regulations.	☐

TAFE NSW

DRAFT

FITOUT AND FINISH
MBCHAA (PILOT COURSE)
ASSESSMENT PACKAGE

MODULES 1B.5

SCAFFOLDING
LIMITED HEIGHT

NAME _____ *ID NO:* _____

LEARNER'S ACHIEVEMENT RECORD

Learning Outcomes Assessed	*Achieved*
1B.5.1 - Erect Limited Height Scaffolding under supervision Erect and dismantle limited height scaffolding under supervision of a qualified person.	

Note: Items highlighted (ruled off) have **NOT** been achieved. See remarks below.

REMARKS

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VERIFICATION OF COMPETENCY

All learning outcomes listed above have been achieved for this module.

STAMP

ASSESSOR'S NAME: (Print) _____

Signature _____ Date _____

Case study 4:
Queensland Magnesia (Operations)—QMAG

Background

The Queensland Magnesia Project produces high quality refractory magnesia for use in high temperature furnace linings, particularly in the steel industry. (Refractories are materials which have the ability to retain their physical shape and chemical identity when subjected to high temperatures.) The main processing plant for the magnesite deposit is located on the outskirts of Rockhampton.

The company describes itself as operating a 'green field site'—that is, as a new enterprise it was able to develop organisational structures, work processes and industrial relations conditions, that suited its needs and were free from restrictive traditional work practices. For example, an enterprise agreement was negotiated and a one union site was established; multiskilling is encouraged and successful training is linked to skill point increases and pay increments (provided the worker is using the newly acquired skills).

Work instructions detailing all aspects of the processes carried out at QMAG have been developed in line with the Australian Quality Standards. These work instructions form the basis of the company's assessments. QMAG's enterprise standards are in draft form and they are yet to be endorsed by the National Training Board. They have been expressed in 'neutral' terms using generic expressions where possible, in an attempt at balance between being specific to QMAG and being general enough to allow for portability within the mining industry. They were developed by a Standards Committee in the company representing all interested parties.

Twelve modules relating to the company's production processes were developed in 1992-1993 as self-paced learning packages, using written and computer-based text and video (and others are planned). They are each a nominal forty hours duration with self-assessed learning activities at the completion of each section. The modules were developed before the completion of the company's work instructions and after their standards were developed. It is therefore acknowledged that certain aspects of the modules may alter.

The learning materials were developed in-house. Through their development, the company states that there was a change from the concept of teaching to one of learning and a concern to ensure that the learning environment was not a threatening one.

QMAG received funding from VETEC (Vocational Education, Training and Employment Commission, Queensland) to develop the training modules and subsequently to undertake a validation process to evaluate the module learning materials, learning environment and delivery modes as an integrated and effective learning system.

At the time of writing, a trialing of 6 modules with 24 employees has been completed and the company is awaiting the report of the validation.

Course or program
The QMAG modules do not comprise a course. However, the company is seeking to have the modules accredited nationally as part of the Engineering Production Certificate (EPC).

Preconcentration module
('Preconcentration' is the name for the first phase in the mining of the magnesite ore.)

Summative assessment occurs on-the-job over a number of shifts, depending on the complexity of the skills being assessed. Assessment is based on the company's quality system's Work Instructions.

Title of occupation
Preconcentration Operator, ASF Level 2.

Context of assessment
QMAG is a one union site with an enterprise agreement. Multiskilling is encouraged by management. Multiskilling could not occur effectively without the accompanying training. Once workers are accredited for a particular module, it *may* attract a salary adjustment, provided they are using those skills in their work.

Assessment occurs under conditions that conform as closely as possible to those that will be encountered in a 'live' plant situation.

Recognition of prior learning is available for all workers wishing to be accredited with any of QMAG'S modules.

The mentor and the assessor
QMAG distinguishes between a *mentor* and an *assessor*. Mentors are selected for their technical experience and expertise to answer any questions pertaining to the learning guides (modules). Learners are encouraged to take responsibility for their own learning. Mentors are not necessarily in supervisory roles and have no assessment responsibilities. This was done in order to 'depoliticise' the learning process. (See 'Mentor job profile', page 74). They 'sign off' the learning activity from each section as the learner completes it. When he/she finishes the entire module, the learner indicates to the supervisor of the operational area concerned that they wish to undertake the formal assessment for the module. Supervisors who are also assessors have undergone a one month's training course in train the trainer. Assessors are expected to be qualified in the theory and practice of the skill/knowledge being assessed; the theory and practice of competency-based assessment and the construction and use of assessment instruments where such instruments are used to evaluate competency has been

communicated to them 'in-house'. Assessors have not had specific formal assessor training.

Pre-assessment and post-assessment follow up
Because the module is self-paced, it is up to the learners as to when they complete each learning activity (and how long each takes them). If self-assessment is involved, feedback would occur by the learner approaching the mentor for assistance or confirmation of achievement or through the 'competency checkpoints' at the end of each section (see page 76 for example).

In terms of summative assessment, learners are provided with the work instructions and assessment criteria against which they will be assessed. They are informed that they may have one formal trial run assessment through each set of criteria in order to obtain feedback prior to the formal assessment.

Re-assessment
There is no limit to the number of times a learner may attempt a learning activity, or how long he/she takes to complete each one, and the module as a whole. If a learner is deemed 'not yet competent' in the formal assessment, he/she would review those sections of the module that needed more study.

Recording of assessments
A data base is being developed by management to record individuals' achievement of the QMAG modules.

Appeals procedures
Conflict over assessments would be referred to the Skills Extension Programme Standards Committee. It consists of the line manager of the appropriate operational area, an employee representative, a supervisor from the relevant operational area and a staff officer responsible for managing training and development activities.

Language and literacy
The formal assessment (summative) involves performance items and oral questions, is on the job; no writing is required. However, the learning guides, although written in plain English, clearly demand a level of reading comprehension, as does some of the computer-managed learning. Assistance is available from a mentor, for people having reading or writing difficulties related to this training.

Learning activities
A type of formative assessment in the form of learning activities occurs at the end of each section of the module. These activities are designed to encourage experiential reflective learning and provide feedback on how the learner is progressing. Each section represents an element of competence and the learning activity example provided is designed to give practice at the level of the performance criteria. The example shows an integration of learning on and off the job and the onus it puts onto the learner to seek out

their mentor to review the material from the module. Each section also includes a 'Competency checkpoint' for the learner to check their progress through a series of questions with answers provided.

The instrument for summative assessment
Summative assessment occurs on the job and is carried out by the production supervisor (assessor).

The learner does not have any involvement in the selection of the summative assessment method. Assessment is carried out by observation (and oral questioning) over a number of consecutive shifts by the production supervisor. (See 'Notes for guidance—competency assessment', point no 2). This is significant since QMAG is concerned to avoid a 'snap shot' approach to assessment, but rather provide a monitoring of performance over time. The length of time depends on the complexity of the module/skills involved.

The instrument used is not a discrete, separate entity. Rather, QMAG regard their assessment instrument as being based on their Australian Quality Systems Work Instructions (see attachments). They delineate all aspects of the tasks and skills necessary for particular jobs and the standard to be achieved, although they do not necessarily give *reasons why* particular tasks are performed. (The learning manuals contain this information). Learners are expected to perform to the standard specified in the work instructions. However, they are not expected to be '100% correct' with all their performances; rather some discretion on the part of the assessor is anticipated in judging overall competence. QMAG's Quality System Procedures describes various levels of non-conformance. A major non-conformance would result in a decision of 'not yet competent' while a minor non-conformance would not. Examples of each for the module under discussion, are as follows:

Major non-conformance—'Fails to isolate the drive of equipment by using personal padlock to lock it out, before working on it.'

Minor non-conformance—'Isolates the drive using the personal padlock but does not attach personal danger tag to the padlock.'

Observation—'Failure to make a routine entry on the shift log-book.' ('Observation' applies where the non-conformance is of a minor nature or is an isolated lapse).

It would be hoped that detailed delineations of these 'conformances' would increase the level of confidence that could be placed in each assessment as assessors have more information on which to base their judgments.

As the 'Range and evidence statement' (see attached) indicates, learners are being assessed not only for demonstration of practical skills, but for underpinning knowledge and understanding, communication skills and company policy. Assessors of this unit

are seeking evidence that the learner has achieved a balance between control of mechanical or physical processes and computerised processes.

The 'Notes for guidance—competency assessment' for assessors and learners clearly establish the assessment process, the duties of the assessor and the rights of the assessee.

Validity
QMAG considers the validity of its assessments are ensured by the audit performed every few months by the Australian Quality Standards.

Comments
QMAG is concerned that their enterprise-specific training and assessment processes are beneficial for its employees/learners as well as maintaining a standard commensurate with being an export-oriented company using Australian Quality Standards.

Their strength lies in their learning process, which allows for learners to use a variety of learning media (written text, computer, video) as well as a system of mentoring to encourage learners to take responsibility for their own learning by approaching their mentor for advice and support whenever they need to.

Summative assessment occurs entirely on the job. As the assessment occurs over a number of shifts, one could say that QMAG is concerned that sufficient evidence is collected to infer competence and that evidence should come, if not from a variety of sources, at least from a number of situations and possible contingencies.

QMAG have also employed a valuable quality assurance mechanism in their training program by piloting a small number of modules with a few employees and having them evaluated by a person external to the organisation. This evaluation gives QMAG the opportunity to adjust their training and assessment in the light of its findings.

APPENDIX "C"

MENTOR JOB PROFILE

By definition, a mentor is a wise advisor, a work colleague who is available to provide expert advice to the learner on matters covered by the learning module being studied.

A mentor is not an instructor or trainer, but someone who is technically and procedurally proficient in the competencies covered by a learning module, and someone who is available for advice.

The role of mentor and learner is not one of "master and apprentice", but must be a relationship of peers in the learning situation with the learner taking the active role in seeking information from the mentor as required.

The learners must be encouraged to accept responsibility, to solve problems and to critically reflect and question the status quo, while keeping to the original targeted skills.

MENTOR PROFILE

A mentor is a special person who must have all of the following abilities and characteristics:

- Good track record - successful in his/her own right and able to set an example.
- A commitment to the process.
- Availability to help the learner.
- Being able to relate to problems faced by the learner.
- Good interpersonal skills.
- Positive attitude.
- Adaptable.
- Aware of own strengths and weaknesses.
- Open minded.

Checking of Operator Interface System for Alarm and/or Fault Messages

COMPUTER LEARNING ACTIVITY

Access the Preconcentration Module in the computer in the Training Centre and view OIS Pages 498 and 499. Review them together with the notes in this topic.

LEARNING ACTIVITY

Review with your mentor,

- *The location of the dumping inhibit light (screen location and physical location).*
- *The procedure for activating the OIS.*
- *The keyboard commands for overriding the automatic operation of the dumping inhibit light.*

COMPETENCY CHECKPOINT !

Use the following questions as a self-check to assess your competency on the topic covered so far.

1 What is the name of the computer system that enables you to communicate with PLCs?

.....

2 What is the first action you must take before carrying out any checks (after you have activated the computer system)?

.....

3 How do you bring up the "Equipment Status" page on the VDU?

.....

.....

4 What action should you take if there is a "Fault" message in the MCC column?

.....

.....

5 What is the piece of equipment that is numbered K13 S01?

.....

.....

Ans ... ( ).

CHECK YOUR ANSWERS

1 Operator Interface System (OIS).

2 Set the dumping inhibit light to "Red" to stop deliveries of feed to the Preconcentration Plant.

3 Press key F20.

4 Contact the electrician to investigate and correct.

5 The first screen in the Kunwarara Preconcentration Plant.

QMAG

QUEENSLAND MAGNESIA QUALITY SYSTEM

WORK INSTRUCTION

NAME	PRECONCENTRATION PLANT START UP		
NUMBER	W.I. 5.8.1.A	DEPARTMENT	MINE PRODUCTION

7.0 Action

Note: **Feed is delivered to the Precon Plant by the mining contractor.**

7.1 Preparation

7.1.1 Check with the Production Supervisor at the commencement of duties as to the results of shutdown maintenance activities and any precautions.

7.1.2 Obtain the key for the Precon Control Room from the key cabinet in the Production Supervisor's Office.

Note: **Only after major shut down (weekend).**

7.1.3 Obtain a copy of Form 5.8.1.C "Kunwarara Daily Production Plan" from the Production Supervisor.

7.1.4 Collect a basic fitter's tool kit and two way radio.

7.1.5 Two operators proceed to the Precon Plant in the Toyota ute and carry out pre start checks as per below.

Note 1: **Pre start checks of equipment encompass the following points:**

(i) **That the equipment is in an operational condition (ie no field or MCC faults - vee belts are intact).**

(ii) **That no debris on or around the equipment causes any damage or injury to the equipment or other equipment when started up and operational.**

(iii) **That the equipment can be operated safely or that operation of the equipment will NOT cause an unsafe condition to develop. (For example running equipment without guarding of nip points).**

7.1.6 En route check that the process water valve to Precon is open.

Note: **This is a manual knife gate valve located on the Precon side of the conveyor K14 C01 and ensures the availability of water to the Precon Plant.**

7.1.7 On arrival at the Precon Plant Operator (1) checks that the dump lights are red (ie) that the tailings line is serviceable and discharging to the pit nominated on Form 5.8.1.C "Kunwarara Daily Production Plan".

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QMAG

QUEENSLAND MAGNESIA QUALITY SYSTEM

WORK INSTRUCTION

NAME	PRECONCENTRATION PLANT START UP		
NUMBER	W.I. 5.8.1.A	DEPARTMENT	MINE PRODUCTION

7.0 Action *(Continued)*

7.1.8 Operator (2) proceeds to the Precon Control Room and checks the two way radio with the Bene Control Room, the Production Supervisor and with the Mining Supervisor on UHF Channel 8.

7.1.9 Operator (2) turns on the power conditioner in the Control Room followed by the Operator Interface System (OIS).

Note: **The Operator Interface System (OIS) consists of the XYCOM unit, the VDU and the printer, and is switched on in that sequence.**

7.1.10 Once the Operator Interface System (OIS) is switched on, wait for the "QMAG" logo to appear indicating that the equipment is ready to operate.

7.2 Pre Start Checks - Operator Interface System (OIS)

7.2.1 Using the Operator Interface System (OIS), select Page 498 by pressing the ***"M10"*** key.

7.2.2 Check that the "DUMP INHIBIT" light is still operating.

7.2.3 Check the screen for any "FAULT" messages and clear non-current faults by pressing the ***"M9"*** key.

7.2.4 Check the status of faults which remain, by pressing the ***"F20"*** key to select Page 499 "EQUIPMENT STATUS".

7.2.5 Contact the electrician to check and rectify any "MCC" faults.

7.2.6 Note any "FIELD FAULTS" for checking during physical pre start checks of the Precon Plant.

7.3 Pre Start Checks - Physical Inspection

Note: **When carrying out pre start inspection, clear any "FIELD FAULTS" as necessary.**

7.3.1 Check screen K13 S01 top deck to ensure it is clear of any maintenance debris.

7.3.2 Check pump K13 P01 for belt tension, guards are in place and that the dump valve on K13 V01 is closed.

7.3.3 Check to ensure there is pressure at the the high pressure pump stand pipe.

7.3.4 Check that valves and water taps are set as follows:

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FUNCTION: PRODUCT PREPARATION

UNIT 1.0 UPGRADING 'AS MINED' ORE

"Initial cleaning and sizing of 'as mined' ore prior to beneficiation"

Element of Competence	Performance Criteria
1.1 Perform Pre-Start Checks	1.1.1 Operator Interface System (OIS) is checked to ensure it is clear of alarm and/or fault messages. 1.1.2 Crushing and screening equipment are checked to ensure safe working condition and freedom from isolation tags. 1.1.3 Feed system is physically checked for damage, alignment, wear, skirting rubber security, rope switches set. 1.1.4 Production plan is checked and all equipment set in accordance with planned production parameters.

Element of Competence	Performance Criteria
1.2 Operate Preconcentration Plant	1.2.1 Preconcentration plant is started up in correct sequence and in accordance with laid down work instructions. 1.2.2 Production quality and output is optimised by monitoring the operation of the preconcentration plant using the Operator Interface System and corrections/adjustments made as necessary. 1.2.3 Preconcentration plant is physically checked, running repairs carried out, spillage pits cleared and feed equipment kept clear of blockages. 1.2.4 Shift log sheets are completed accurately and communicated to other shifts.

FUNCTION: PRODUCT PREPARATION

UNIT 1.0 UPGRADING 'AS MINED' ORE

"Initial cleaning and sizing of 'as mined' ore prior to beneficiation"

Element of Competence	Performance Criteria
1.3 Shutdown Preconcentration Plant	1.3.1 Using the Operator Interface System the plant is closed down in accordance with laid down sequence ensuring apron feeder and belts are free of product. 1.3.2 The control system equipment is disengaged and turned off in accordance with laid down sequence and work instructions. 1.3.3 All plant is secured and water isolated.

Element of Competence	Performance Criteria
1.4 Perform Basic Maintenance	1.4.1 Appropriate housekeeping measures are selected and implemented. 1.4.2 Running and static preventative maintenance checks are carried out in accordance with preventative maintenance schedules. 1.4.3 Appropriate lubricants are selected and applied to equipment in accordance with preventative maintenance schedules. 1.4.4 Basic maintenance on Operator Interface System is carried out including supply of consumables to report printing equipment. 1.4.5 Preventative maintenance reports are regularly and accurately completed and forwarded to engineering maintenance.

DRAFT

FUNCTION: PRODUCT PREPARATION

UNIT 1.0 UPGRADING 'AS MINED' ORE

Range and Evidence Statement

The performance criteria for this element of competence will apply to QMAG's Kunwarara site and are similar to those operating in a coal wash plant.

Training will be conducted both on and off-the-job. It will be self directed, self-paced and include computer based delivery. Mentors will be assigned to learners as an additional resource.

Competency is to be demonstrated in the normal workplace and should include the completion of set practical tasks to prescribed standards in addition to supervised on-the-job performance assessment over a defined period.

Evidence of a competency is to embrace the satisfactory application of:

- an understanding of the role of preconcentration in the processing of magnesite to refractory materials
- an understanding of the use of computerised process control in combination with manual process control
- current State/Territory WHS legislation, standards and codes of practice
- workplace communication procedures
- company policy
- Quality Systems for Production and Installation under Australian Standard 3902 - 1987/ISO9002 - 1987 and associated work instructions.

QMAG

SKILLS EXTENSION PROGRAMME

NOTES FOR GUIDANCE - COMPETENCY ASSESSMENT

1. Work Instructions prepared under the international quality standard ISO 9002:1987 detail the required performance standards.

2. Competency assessments must be carried out over a number of shifts and judgements should not be made based on single instances of performance. However, assessors may shorten or lengthen the recommended assessment period (available from the Training Co-Ordinator) if they are satisfied as to a learner's competency standard.

3. Prior to commencing an assessment the assessor must ensure that the learner is aware of the standard to which performance is to be demonstrated to satisfy the assessment criteria.

4. Achievement of competent performance should be indicated on the Competency Assessment Checklist by placing a tick in the "COMPETENT" column.

5. If, because of special circumstances, assessment of a particular criterion is not possible (eg required equipment not available) then tick the "DEFERRED" column.

   Note: **The reasons for any deferrals must be noted under the "COMMENTS" section.**

6. If any of the criteria receive a "NOT YET COMPETENT" or "DEFERRED" response the learner and the assessor should arrange for the additional activities necessary to achieve competency to be completed as soon as possible and in any event within one month.

7. During the course of the assessment the assessor must,

   - Carry out the assessment in accordance with the assessment criteria.
   - Treat learners with courtesy and without prejudice.
   - Carry out the assessment without any form of intrusion or interruption which might hinder the learner's performance.
   - Observe all policies, procedures and work instructions which are applicable to the learner whilst under assessment.

8. Following the assessment the assessor must provide feedback on performance to the learner in a positive way encouraging the learner to reflect on their own performance.

9. The assessor should also indicate to the learner how they might use the completed assessment process as a model to guide them in future similar assessments.

10. Once an assessment has been completed the assessor should provide a copy of the "Competency Assessment Checklist" to the learner and a copy to the Training Co-Ordinator. The Training Co-Ordinator is responsible for following up with the learner's Supervisor to ensure the allocation of skill points where relevant.

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QMAG

SKILLS EXTENSION PROGRAMME

COMPETENCY ASSESSMENT CHECKLIST

MODULE 1 Preconcentration SECTION 1 Performing Pre-Start Checks

LEARNER'S NAME _____ DATE / /93

ASSESSOR'S NAME _____ SIGNATURE _____

ASSESSMENT CRITERIA

To successfully complete this section, the learner must be able to:

		Competent	Not Yet Competent	Deferred
1.	Select and use the correct PPE at all times	☐	☐	☐
2.	Carry out all activities in accordance with workplace health and safety policies and procedures.	☐	☐	☐

Note: The above two criteria are common to all competency assessments.

3.	Start the Operator Interface System (OIS) and recognise alarm and/or fault conditions.	☐	☐	☐
4.	Check all feed equipment for damage, alignment, wear, skirting rubber security, rope switches set.	☐	☐	☐
5.	Check all crushing and screening equipment to ensure it is free from isolation tags and in safe working condition.	☐	☐	☐
6.	Check production plan and set equipment parameters in accordance with production operating plan requirements.	☐	☐	☐

COMMENTS

_____

_____

_____

ISSUED FOR COMMENT
NOT FOR USE

Case study 5:
Building Industry Skills Centre, Sydney

Background

The Building Industry Skills Centre (BISC), established in July 1992, provides a learning environment which allows the industry to meet the need for innovative and flexible training.

Funded by the Building Services Corporation and functioning as an independent unit within the structure of the Western Sydney Institute of TAFE, the skills centre responds to industry requirements for technological change and assessment and is able to support the traditional education arena.

Objectives of the centre, quoted from the 1992 Annual Report, include:

- To be the focus for the development and implementation of innovative and flexible skills training for the building and construction industry in New South Wales;
- To provide a forum that will encourage co-operation in building education and training between TAFE and industry;
- To establish a state centre of expertise for testing and assessment of skills in the building industry;
- To foster the development of a training and skills development culture within the building industry.

The program and level of occupation

One of the major activities of the skills centre has been the assessment of all new applicants for a Gold Contractors Licence, granted by the Building Services Corporation of NSW. These applicants do not hold acceptable TAFE (or equivalent) qualifications in such trade categories as bricklaying, carpentry and joinery, fencing, tiling, painting and decorating and others. They are eligible to apply for assessment at the BISC if they have been working for a minimum of four years (in most cases) in their chosen trade.

The skills assessment equates to ASF level 2; that is, below trade level.

Assessment

Assessment for this day includes a theory component (multiple choice, question and answers—written, or oral questions and answers) and a practical component consisting of the candidate having to complete a series of integrated tasks assessing to the industry competency standards.

Context of assessment
The gold licence assessment is an exercise in the recognition of prior learning, as it is 'designed to recognise the competencies held by the applicant regardless of how they were acquired in the building industry.'

Assessments have been devised in line with VEETAC assessment principles and measure each applicant against the range and application of knowledge and skills specified by the competency standards developed by industry parties in each trade category (BISC Annual Report, 1992).

The assessment process at the skills centre also allows for 'gaps' in training to be identified and for steps to be taken by the applicant to pursue training, either at the BISC itself, at TAFE or with a private provider.

The assessor
Assessors who work at the BISC come from both TAFE (full and part-time teachers) and industry. They are selected to reflect the BSIC philosophy of combining input from education and industry. An assessors' manual has been developed by the BISC and would-be assessors attend a National Transitional Assessors Course for the building and construction industry.

Because of the licensing implications, each applicant is assessed by two assessors and the assessment result must also be countersigned by the senior assessor at the BISC. In fact, the centre takes considerable steps to ensure that their assessments are fair, consistent and reliable as well as valid.

Pre-assessment meeting
Would-be applicants attend a briefing session held each month on their particular trade. During this session they are provided with complete information about what to expect on the day of their assessment. They are given information on the types of assessment tasks they are expected to perform and the competencies and performance criteria they must achieve.

Applicants are informed that translators are available (costs covered by the centre) and that arrangements can be made for people with literacy difficulties.

Potential applicants initially fill in and bring to this meeting a 'self-assessment questionnaire' in which they are asked to tick the competencies they believe they possess and are able to perform in the practical skills assessment. The questionnaire is also available at the briefing session and is 'talked through' with potential applicants.

The assessment instruments
The assessment for the gold licence occurs over one day. It involves firstly a theory test, comprising multiple choice and/or

short answer questions on construction standards and techniques in the building industry. If the candidate wishes to answer the questions orally, because of literacy difficulties, this can be done by the assessor through questions and answers (not multiple choice). For reasons of reliability of the evidence being collected, this decision is documented and signed by the manager of the centre.

The practical tasks are preceded by a 15 minute interview with the applicants by the assessors and acts as an orientation period where the latter explains what is expected from each assessment task, each of which has an approximate time frame attached. Applicants receive a copy of all the assessment tasks (see example, *Saw Stool* and complete list of tasks). Each task is holistic, simulates a workplace task, and is designed to assess one of the competencies, in this instance 'Interpret a detailed drawing to obtain information on a specific item to be constructed eg. saw stool, step ladder, simple window frame etc'. The acceptable tolerances in this example (see attached) are given to the applicant. The assessor only intervenes during the practical tasks if there is a safety issue involved.

Each assessment is 'signed off' by two assessors, and countersigned by the senior assessor. If there is not agreement between the assessors concerning the awarding of competence, the manager makes the final decision.

Assessment methods

This assessment process at the BISC involves a number of assessment methods. The theory is generally assessed through written, multiple choice questions but may be assessed orally if there is a need. The major assessment is through completion of small projects which assessors judge by means of a check-list. As well assessors may decide at the end of the day that they need more information about the completion of one of the tasks set. In this case, they will ask the applicant to provide more details, either as part of the formal assessment or in the 'consultation period' immediately following the official conclusion of the assessment.

Language and literacy

At the briefing sessions for the gold licence assessments, it is made clear to all potential applicants that translators are available (paid for by the centre) to assist them on the day. Applicants are able to answer the theory questions orally. As well, during the practical assessment tasks, if an applicant had difficulty actually reading/interpreting the instrument, an assessor would read it through to the applicant.

It should be noted however, that in order to gain a gold licence, the Building Services Corporation also requires that builders undertake a business management course as well as this assessment. Therefore, issues concerning a builder's language and/or literacy proficiency, would probably emerge while undertaking such a course if this has not already occurred.

Post-assessment feedback and follow-up

Both the assessment feedback and follow-up are carried out very thoroughly. An official 'finishing time' is made with each applicant, after which the assessor may assume the role of trainer. If the assessor judges the applicant to be 'almost competent', he may discuss with him the area/s of doubt and if satisfied by the discussion, can deem him competent concluding the discussion. For example, it may be 'nerves' that has prevented the applicant from completing one of the tasks, rather than lack of skill. This assessment situation is different in this respect to an on-job assessment. It is not the applicant's normal work environment, on this day he has only 'one go' at each task, he has paid considerable money—$120 (particularly in this recessionary time) to be assessed at the BISC; there may be a lot riding on him being assessed as competent. As well, many applicants have been working in the building industry for many years and have become very skilled without formal qualifications. Therefore, it is conceivable that to be assessed 'incompetent' and not be eligible to apply for the gold licence could be very stressful for the candidate.

Bearing the latter point in mind, the BISC has set up a range of alternatives for these applicants which are detailed on a training outline form, given to each applicant following their assessment which details gaps in their skills as well as spelling out clearly how/where they can be remedied. If a candidate was assessed 'almost competent', that is needing only some reskilling in one or two competency areas, he/she may attend a one-day (minimum) *refresher* training, held at the BISC or a TAFE college. If held at the latter, the BISC 'buys' some time there for training to occur. Once the applicant has completed this training, they can then be re-assessed on those particular competencies .

If an applicant's assessment was well below competence, it would be suggested that they attend more extensive training at TAFE or a private provider (if available). An applicant may re-apply for re-assessment six weeks after the first one.

Appeals

If an applicant is dissatisfied with his result, he may appeal firstly to the senior assessor at the centre, then the manager who may suggest being re-assessed with different assessors. Ultimately, an applicant has recourse, through the Building Services Corporation, to the Minister.

Recording of results

Each applicant has a file kept at the BISC. The documentation of results is clear and thorough. It details each part of the assessment and whether competence was achieved. As was mentioned above, if competence was not achieved, the results show where and why, and suggest alternative strategies for training. Each applicant of course receives a copy of their results.

Reliability and validity

Reliability of the assessment instruments and process in general is achieved firstly by ensuring that all assessors provide the same information to all applicants attending the pre-assessment briefing sessions (each assessor has a 'checklist' of items to inform applicants about). Secondly, results of the assessments are analysed for their consistency, for any evidence that questions were asked ambiguously; feedback from the candidates is also noted.

Validity—The assessment instruments are viewed as 'working documents' only, due to changes regularly occurring in the building industry. They were compiled by review panels consisting of representatives from industry and education. All assessment tasks in the various trade areas will be reviewed early next year. Through this input, the centre is convinced that the instruments succeed in measuring what they are intended to measure.

Comments

This case study is different to others in this selection in that the assessment is not based on a training program. In fact, the reverse occurs where the results of an assessment are likely to be training for the candidate who has probably never received any before. It was included because it provides an innovative example of an 'assessment centre' operating efficiently to serve the needs of both the candidates and the cottage building industry.

The entire assessment process (from pre-assessment briefing session to post-assessment feedback/counselling) is based on a premise that candidates may:

- have English language difficulties;
- have literacy difficulties;
- have been working in the industry for many years without ever having received any training or been assessed for their skills and knowledge;
- be under stress as they are subjecting themselves to an apparently 'one off' assessment situation, whose results could have adverse effects on their livelihood (that is, not be eligible for the gold licence and therefore not be able to continue operating their business).

As many measures as possible are taken by the centre to make allowance for any of the above factors while at the same time ensuring that the necessary rigour and consistency of the assessment process is maintained.

The assessment instruments are designed to be integrated, simulated, workplace tasks, assessing largely technical skills. The many other skills associated with managing a small business are not assessed on this day and in that sense, one could say that the 'integration' is limited to a technical skills domain.

ASSESSMENT TASKS

Task 1 **Building Standards**
Answer multiple choice questions based on acceptable standards of construction.

Task 2 **Saw Stool**
Interpert workshop drawing and construct item within a specified time, to acceptable tolerances.

Task 3 **Conventional Roof Details**
Sketch roof plan layout in single line drawing, identify and name nominated members.

Task 4 **Trussed Roofing**
Identify different types of trusses used in conventional roof framing and identify their locations, on a single line roof plan.

Task 5 **Pattern Rafter Setout**
Prepare set out of a common rafter for the main roof by using any of the following methods:

1) calculations
2) Steel roofing square
3) Any other practical method you understand.

Task 6 **Wall Plate Setout**
Set out a nominated wall plate indicating the following items:

1) scarf or half lap joints on both ends of the plate to take adjoining walls
2) place window as close as possible to centre of wall, it must suit standard metric brick bond
3) mark brick bond on edge of plate as set back from corner, to aluminium window frame
4) show position of all necessary wall frame members and allow 10mm clearance on both sides of window in the opening.

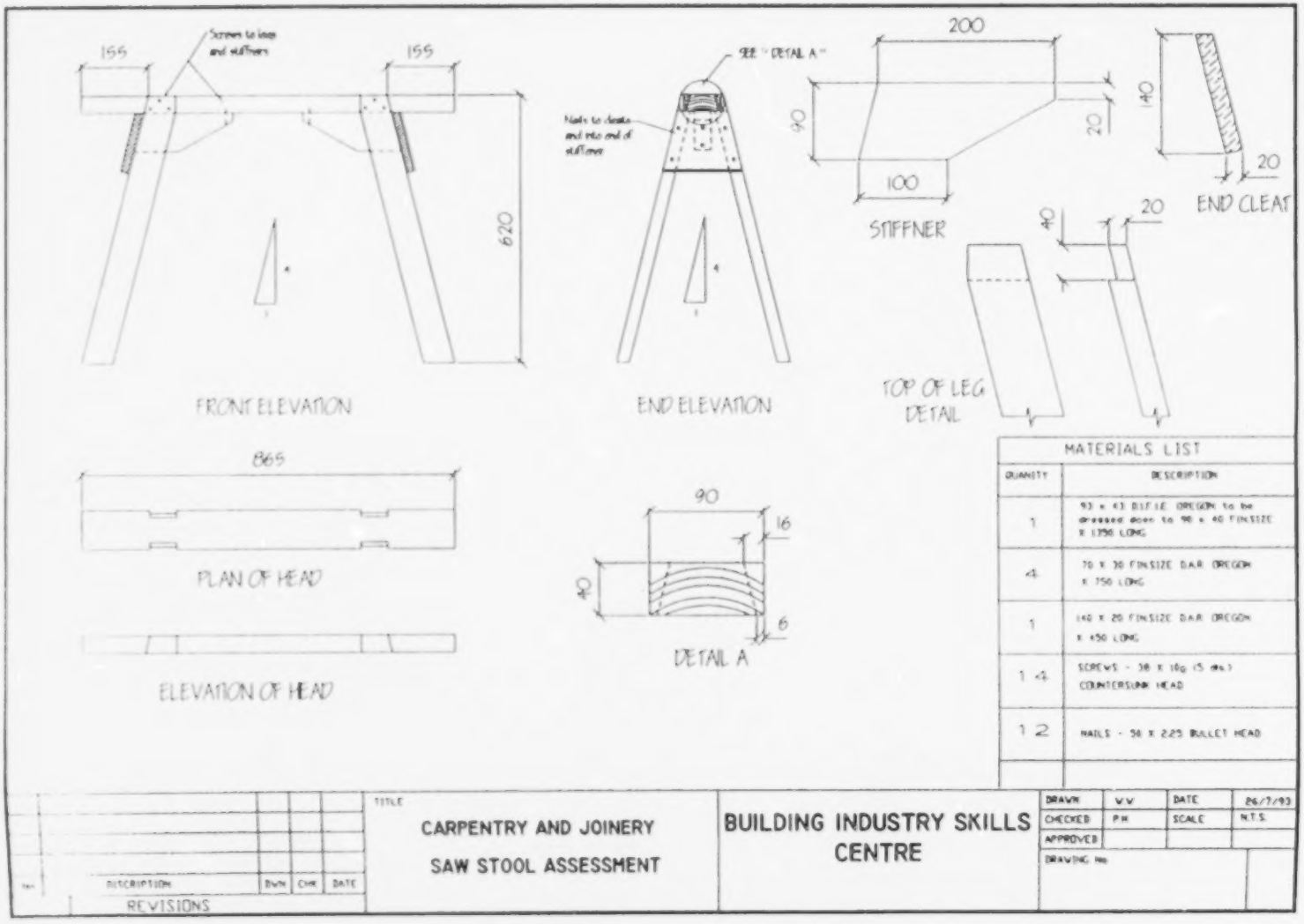
Task 7 **Fixing Out**
Cut and fix architraves with mitres and square ends, obtain even quirk lines to acceptable tolerances, skirting to have internal joints scribed and external joints mitred. Quad to be returned within itself and bottom scribed over the skirting.

CARPENTRY & JOINERY

CANDIDATE'S NAME:

Competency				Assessor's Comments
Competency 2 *Saw stool*				**Comments:**
2 01 Planning the head to size				
a) Correct width?	**+/- 1mm**	Y	N	
b) Correct thickness?	**+/- 1mm**	Y	N	
2 02 Cutting head to length?	**+/- 1mm**	Y	N	
2 03 Cut square on ends				
a) Face?	**+/- 0.5mm**	Y	N	
b) Edge?	**+/- 0.5mm**	Y	N	
2 04 Correct distance of legs in from ends?	**+/- 1mm**	Y	N	
2 05 Acceptable skill fitment of leg joints to head?	**0.2mm**	Y	N	
2 06 Acceptable skill in fitting cleats under head?	**0.5mm**			
	(Underside of head & flush with sides)	Y	N	
2 07 Acceptable skill in fitting stiffener under head?	**0.5mm**			
	(Top [1 mark each side-check] ends 2 marks/end)	Y	N	
2 08 All screw slots facing the same way?	**All correct**	Y	N	
2 09 Acceptable skill in having all corners of legs cut evenly to floor?	**1mm**			
	(1 mark/side of each leg)	Y	N	
2 10 Saw stool presented with correct vertical height?	**+/- 3mm**	Y	N	

SAW STOOL ASSESSMENT



MATERIALS LIST	
QUANTITY	DESCRIPTION
1	90 x 43 BLUE OREGON to be dressed down to 90 x 40 FINSIZE X 1750 LONG
4	70 X 30 FINSIZE DAR OREGON X 750 LONG
1	140 X 20 FINSIZE DAR OREGON X 450 LONG
14	SCREWS - 30 X 10g (5 dia.) COUNTERSUNK HEAD
12	NAILS - 50 X 2.25 BULLET HEAD

REVISIONS					
	DESCRIPTION	DWN	CHK	DATE	

TITLE: CARPENTRY AND JOINERY
SAW STOOL ASSESSMENT

BUILDING INDUSTRY SKILLS CENTRE

DRAWN	WW	DATE	26/7/93
CHECKED	PH	SCALE	N.T.S.
APPROVED			
DRAWING No			

BEST COPY AVAILABLE

Case study 6:
Joint Australian Public Service Training Council—Canberra Institute of Technology

Background
This module is one of twenty-nine designed to meet the training needs of administrative service officers in the Australian Public Service. The modules have recently been accredited in the ACT and nationally accredited under NFROT principles. The modules come together to comprise three courses—at certificate, advanced certificate and associate diploma (ASF 5/6). They may be taught on site or by a training provider such as TAFE.

Organisation
Canberra Institute of Technology (CIT) runs the course on a fee-for-service basis for employees of the Australian Public Service (APS).

Name of course
The Certificate in Public Administration (APS)

Occupation
The course is aimed at people working in the APS at ASO (Administrative Services Officer) levels 1-4.
It is at ASF level 3.

Module and its assessment
Planning and organising for results (PAS302).
Nominal duration: 36 hours.

Assessment in this module consists of two workplace projects which are to be completed during a three week period between the first and second parts of the module.

The module has a one-to-one correspondence with the identified JAPSTC (Joint Australian Public Service Training Council) AS01-4 core competency standards. It relates to Unit 2: Plan and Organise for Results.

This module has no pre-requisites but it does have a co-requisite: Personal performance (PA306). It is a pre-requisite for modules in the advanced certificate and the associate diploma.

The module was written by CIT staff as part of an ACTRAC funded project and in conjunction with a JAPSTC project team.

Context of assessment
The course is primarily directed towards people working in the APS who do not have post-school qualifications. Participation in the modules is voluntary. However, particularly for those for whom it may be their only credential, the incentive to undertake it is strong. It will assist people's job mobility within their own agency and between agencies in the APS. As well, it may be used to assist

applicants for promotion by demonstrating that they have the required competencies.

Recognition of prior learning is an essential component of this program. *All prospective students for the course undergo RPL* at Canberra Institute of Technology and have, as a result, received an average of more than 50 per cent advanced standing for the course.

The RPL mechanisms used are based on the Broadmeadows model. Those involved in RPL for this course at Canberra IT have suggested the following principles and guidelines for ensuring a rigorous, consistent and valid process is adhered to:

- applicant's workplace supervisor is present at briefing session, to assist in filling out the application form and at the interview.

It is essential that:

- there is a detailed briefing session in the beginning to reassure the applicant and build confidence;
- the form is well-designed and clear;
- it is made clear what kind and amount of documentation is necessary.
- The interview questions allow people to address the learning outcomes and assessment criteria in the module;
- the interviewer has good interview skills to allow for effective probing in a tight time frame (one hour for each interview);
- the interviewer also has good feedback and debriefing skills.

The assessor
The assessor in this course is also the presenter, the TAFE teacher.

The workplace supervisor does not have formal assessment duties but is involved in the student's training by suggesting topics or projects for the assessment task, giving advice and helping collect information and also is expected to give comments on the assessment cover sheet on the student's work related project.

Pre-assessment and delivery mode of module
The module is delivered at TAFE in two parts, one of 2 day's and the other of 1 day's duration. The first two days consists of an introduction to the module and its learning outcomes, some teaching of the content and discussion of the assessment task. Enough learning needs to take place during these first two days to enable the student to carry out their workplace project independently. The module is designed so that half the learning takes place at TAFE and half (through the workplace project) takes place on the job.

There is a three week gap between the first and second segments of the module; during which time the student is expected to begin and complete the workplace project—the assessment task. During this

time, the student is able to contact the TAFE teacher (assessor) for assistance or request assistance from her/his supervisor.

The second one day off-job period is largely devoted to the assessment task. In the example included as with many others, a presentation of the project by each student is expected and is seen as an important part of the learning process.

Post-assessment feedback
It is most likely that assessment of the project will not occur until after the module is complete. If the student is deemed 'not yet competent', she/he will be asked to resubmit. The assessor must make it very clear which parts of the project need to be resubmitted. Students may resubmit projects several times if they wish. Students are provided with written feedback on the strengths and weaknesses of their project.

See 'Assessment feedback sheet' from another module 'Contributing to the workgroup' for an example of how one teacher has chosen to use a checklist to ensure that all the learning outcomes are covered in the learner's project.

Appeals
There are as yet no formal appeals mechanisms in place within the APS structure regarding assessment of these modules.

Assessment instruments

Formative assessment
During the first two-day period in TAFE, students do short exercises—activities designed to practise skills needed to complete the workplace project. They also provide feedback for the learner and the teacher on the former's progress and understanding.

Summative assessment
For this module there are two assessment tasks, written project reports (customised to the learner's specific workplace or agency) which are to be done during the three week period between stage one and two of the off-the-job TAFE learning. The projects (as the examples show) are designed to integrate off and on-the-job learning—and they aim to be useful to the organisation, allow for effective transfer of learning and encourage learning on the job.

The guidelines for assessment and the actual tasks headed 'Project requirements and guide for assessors' are also given to the learners. This is designed to make the assessment process transparent (learners are left in no doubt as to what is expected of them by the assessor).

The module contains two learning outcomes, both fairly broad, and each assessment task (project report) relates to a learning outcome. The instrument is broken down into a number of parts, each addressing specific assessment criteria. Learners have to

demonstrate competence in each part of the assessment in order to achieve overall competence. It may be, therefore, that one part only of the project has to be reworked, or resubmitted. This can be clearly identified.

Although in one sense the assessment task may appear quite prescriptively detailed, it was written in this way in order to make clear the association between the assessment criteria and the actual task. It is thought particularly important in this (and many other) JAPSTIC (Joint APS Training Council) modules because the assessment criteria are not 'objective' and certainly not possible to measure in the same way that one can measure more 'technical' skills-based performances.

Another advantage of presenting such a detailed assessment task concerns learners' skills in report writing. Given that many participants (particularly at the lower ASO levels) may not have to do a great deal of writing in their jobs and/or that many of them also do not have post-school qualifications, it may be that writing such a report could prove difficult. As well, there is not much time to practise these writing skills during the module. Therefore, any assignment that is more structured should benefit these, and indeed all, learners.

Comments

The delivery mode and assessment tasks of this module have been designed to maximise opportunities for the transfer of learning from off to on the job and to integrate the learning with the assessment activities. As well, the projects on which the assessments are based relate directly to the work being undertaken in the particular government agencies. Supervisors have become involved in the assessment task in the form of providing guidance and support, without having to assume the formal (and industrially sensitive) responsibilities of actual assessment. This latter point was of great concern to the Public Service Union.

There is concern however, about whether the three week period between the first and second stages of the module provides sufficient time for all learners to complete, independently, their workplace projects (even with input from their supervisors and TAFE teachers).

PROJECT REQUIREMENTS AND GUIDE FOR ASSESSORS - Module 2, Learning Outcome 1
"Identify results required of work group and individual"

Participants are required to produce a written project report that identifies the results required of their work group (which could be a section, sub section or smaller work team, and which may or may not include a supervisor) and themselves as individuals.

To demonstrate competence the report will need to meet the assessment criteria (1.1 to 1.5) and the conditions stated. The first, third and fourth conditions relate primarily to assessment criterion 1.4, the second condition to 1.1, and the fourth condition in part to 1.5.

A report that demonstrated competence might be divided into three parts, each addressing particular assessment criteria and their associated conditions.

Part one (assessment criterion 1.1) would show a clear understanding of how the individual's work and that of his/her work group related to corporate goals. Extracts from the corporate plan and other agency planning documents, together with an explanation of how individual/group tasks relate to them, would assist. Participants should ensure that condition two is specifically addressed.

Part two (assessment criteria 1.2 and 1.3) would identify documentary and non documentary sources of goals and (particularly) results required of the participant and the work group. It would be useful to refer to stakeholders other than supervisors and comment (with reasons) on the practical usefulness of each source.

Part three (assessment criteria 1.4 and 1.5) is the major focus since it addresses the learning outcome directly. The goals and results expected of the individual and the workgroup should be clearly stated and meet conditions one and three. Goals and results should be derived from the sources identified in Part two. Participants should clearly state the steps they have taken to clarify and make more specific their goals (taking particular account of assessment criterion 1.5 and condition 4), recounting any difficulties they may have encountered in the process (condition 4).

The difficulties of precisely defining goals and expected results, particularly for non operational roles, should not be underestimated and participants need to be alerted to this. The point is to be able to clarify and combine requirements (which may conflict) from a range of sources as a basis for action.

A brief presentation of the report to peer participants might usefully focus on Part three with particular regard to the issues in condition four. Presentations might be done in small groups with a summary presentation of useful findings to a plenary session. Discussion/sharing of ideas for clarifying expected results should be encouraged as an important aspect of the learning process.

Presenters should make themselves available to participants for guidance and support during the project. Projects which do not meet the assessment criteria and conditions will need to be reworked and resubmitted before competence can be certified.

Learning outcomes On completion of this module the learner will be able to:

Learning outcome 1 identify results required of work group and individuals.

Assessment criteria

1.1 Explain the relationships between the work of individuals, the work group and corporate goals.

1.2 Identify sources of information about the goals of and results required of work groups and individuals.

1.3 Select appropriate sources of information about goals and results required.

1.4 Determine, clarify and record goals and expected results of work group and individuals.

1.5 Seek out feedback about the adequacy of work performance from stakeholders, consider and act on it.

Conditions

- Participants should identify multiple goals for both individuals and workgroups which should include some goals which are not directly related to product or service outputs - eg staff development, resource acquisition, EEO, ID, OH&S
- They should demonstrate a clear understanding of the impact of goal achievement/non achievement by themselves and their work group on other work groups, the organisation and its clients
- Goals and expected results should include appropriate quantitative and/or qualitative measures (eg productivity, time, quality, cost, client satisfaction etc)
- Participants should be encouraged to improve the clarity with which expected results are currently expressed and develop further and more sophisticated measure of results through a process of consultation with appropriate stakeholders.

PROJECT REQUIREMENTS AND GUIDE FOR ASSESSORS - Module 2, Learning Outcome 2

"Use work planning techniques to achieve results"

Participants are required to produce a written project report on their attempts to implement and test work planning techniques, reporting on successes/failures. The goals and expected results described in the project for learning outcome 1 of this module form the starting point for this project. As in the first project, the focus should be on evaluating and improving on current practices rather than an uncritical acceptance of the status quo.

To demonstrate competence the report will need to meet the assessment criteria 2.1 to 2.9 and the two conditions. To satisfy the first condition at least two plans (or parts of them) will have to be considered. Use of a weekly or monthly work plan is advised - it is within the control of the participant and the cycle is likely to be completed in the assessment timeframe. Projects on partially complete planning cycles should be accepted provided that all assessment criteria and conditions have been addressed.

A report that demonstrated competence might take the reader through the work planning/organising sequence (assessment criteria 2.1 to 2.9 or see "tasks" box in the attached model), explaining the considerations/thought processes/documentation at each step. Description MUST be supplemented by the actual documentation used - work plans, resource estimates, actual performance data, reports on feedback received, improvement meetings/discussions held. This documentation is important as it substantiates the application of work planning techniques at the workplace level.

As with the project for learning outcome one, a brief presentation of the report, focussing on sharing what was learned from the project, is encouraged as an important aspect of the learning process.

Learning outcome 2 use work planning techniques to achieve results.

Assessment criteria

2.1 Make work planning decisions only after consultation and negotiation.

2.2 Make, and modify, estimates of time and other resources required to achieve required results.

2.3 Assign, prioritise and schedule work.

2.4 Produce work plans for individuals and work groups.

2.5 Monitor appropriateness of individual and group work loads.

2.6 Monitor progress of work against plans and make appropriate steering adjustments.

2.7 Measure actual results against planned results.

2.8 Propose, discuss and implement more efficient and effective work methods where appropriate.

2.9 Adjust workplace on the basis of experience and in response to changed conditions.

Conditions

- Participants should demonstrate competency in this area with plans of varying complexity and type (eg daily/weekly workplans, project plans, work group plans, resource plans, staff development plans).
- Participants should identify, analyse and report on implementation problems and propose and test solutions.

Case study 7:
Regent Hotel, Sydney

Background
The Regent Hotel began assessing its employees using the industry accredited ACCESS courses in October 1991. It was one of the first hotels to begin using ACCESS. It's average of assessments is approximately six employees per week, mainly in the food and beverage and front office areas.

ACCESS has been in operation for approximately two years. It is one of the components of Australia's hospitality training system. It is a skills assessment and recognition program, in fact a form of RPL, primarily designed for employees already working within the industry. The program covers the food and beverage, kitchen attending , club gaming, housekeeping and front office areas. ACCESS allows employees who have gained their skills on the job rather than through formal training programs to have their skills assessed and formally recognised.

As well as ACCESS, the hospitality industry, through Tourism Training Australia, co-ordinates other training: the Australian Hospitality Review Panel (AHRP) (industry-recognised training courses) and is jointly responsible for promoting the Cooks Recognition System (trade recognition as a qualified cook).

Occupation and ASF level
Hospitality Employee—ASF 1—3.

Name of module and assessment
Restaurant service basic level, Module number—BFB3.

Assessment consists of a combination of simulated role play observation by assessor and oral question/answers for theory sections.

Name of award
Employees receive a transcript of their results from Tourism Training Australia, which goes into their candidate folder.

Context of assessment
Assessment at the Regent Hotel is conducted for purposes of recognition of prior learning and for employees to be in a more competitive position when applying for higher positions, either within this enterprise or within the industry as a whole. In relation to this, ACCESS training and assessment is linked to awards and pay levels within the hospitality industry.

Employees completing ACCESS modules will receive credit transfer into specific courses offered by TAFE or a private provider.

The assessor
Assessments may only be performed by assessors who have been trained, assessed and certified by licensed ACCESS trainers. There are two levels of assessors, workplace assessors (WPAs) who assess within their own workplace as well as in others, and industry assessors (IAs) who are able to assess in their own workplace and in other venues and who have a role in monitoring assessments performed throughout the ACCESS system. The WPA is likely also to be the trainer within the workplace.

WPAs receive two days training from industry assessor trainers based largely on teaching assessors how to perform task breakdowns. It has been recommended by the ACCESS Evaluation (7.3.22, p.47) that 'more emphasis should be placed on the application of the industry standards to workplace tasks. This would re-focus Assessors away from the specific procedures being used and onto the industry standards'.

WPAs have to conduct several assessments in the presence of an IA before they are licensed. The licenses are reviewed every two years.

Re-assessment briefings
These occur in a number of stages. Before an employee becomes a member of ACCESS, the supervisor sets up a private discussion with the person and gives them an overview of the ACCESS program and the benefits of ACCESS in assisting with their career progression. The staff member then joins ACCESS, pays a registration fee of thirty dollars and receives the relevant paper work.

The supervisor and the candidate then discuss which of the basic modules the candidate is interested in completing. The assessor needs to be assured that she/he has observed the candidate performing the skills/tasks to be assessed over a period of time, before agreeing to go ahead with the assessment. If there is agreement, the supervisor/assessor provides the candidate with a copy of the relevant *competency profile* (the industry standard which provides an overview of what is to be in the assessment) and discusses that with her/him.

Immediately before the actual assessment, the supervisor has another briefing session with the candidate and explains that she is now a representative of Tourism Training Australia and not to view her as the supervisor. She also goes through the competency profile again with the candidate to ensure she/he understands the standard required.

Learning resources
Up until very recently, there were no learning materials to accompany the ACCESS competency profiles. If an assessor thought the employee did not possess the necessary skills/knowledge to be

assessed, it was up to the employee to either find out for themselves or attend a relevant training course.

These options are still available of course. As well, however, ACCESS has produced self-paced learning resources for each module, 'Keys to access'. They are to be studied in conjunction with the employee's supervisor and have been designed for small and medium-sized businesses to encourage more formal workplace training. The resources, which are purchased by the employer, come in three parts. The first is a guide for supervisors, the second is a video which demonstrates examples of good practice in certain skills and tasks demanded in the module. The third part is for learners and contains the underpinning knowledge (theory) necessary for the module and exercises to complete which require the employee to approach her/his supervisor for assistance and information. It is assumed that the supervisor is not necessarily the assessor for the purposes of this training.

Post-assessment feedback
This is an essential part of all ACCESS assessments. After assessors have completed their notes, they ask the candidate what went well during the assessment and what would she do differently. The assessor then provides any feedback not already given, asks the candidate to summarise her (the assessor's) feedback and checks that it is useful. (This tests transparency in an assessment instrument if the candidate can draw the same conclusions as the assessor as to the outcome of the assessment). If competency has been achieved, the candidate is congratulated and together the next assessment is planned.

If competency is yet to be achieved, assessors at the Regent first give specific praise and positive feedback. They then arrange a follow-up, either more training or another assessment. They will assure the candidate that no-one need know the result of the assessment.

Re-assessment
There is no limit to the number of times a candidate can repeat the same assessment although there must be a twenty-four hour gap between assessments.

Recording of assessment results
Once an assessment has been completed successfully, the assessor fills in a candidate assessment summary form and sends it to the ACCESS State Centre where it is registered under the candidate's name on the ACCESS data base. The candidate may request a transcript listing all successfully completed units from the State Centre at any time.

Appeals
Appeals can be made to the State Office of Tourism Training Australia. No appeals have been made up to the present.

Language and literacy

For this occupation, an adequate knowledge of spoken English is necessary, in order to interact with and service the hotel's clients. As the following example illustrates, ACCESS assessments allow for verbal responses as well as written. However, the training materials now developed by ACCESS have not taken into consideration the possible literacy needs of the candidates, particularly pertinent given the recent evaluation which found that the majority of ACCESS candidates (68%) had no formal post-school training or education. (Executive Summary, *ACCESS evaluation*, 1993, p.2). However, at the Regent it is approximately 50%, with some people having industry-related qualifications from TAFE or overseas.

Assessment instruments

Formative assessment

There is no 'formal' formative assessment at the Regent, or as part of ACCESS. At the Regent, as in most workplaces, assessment is constantly occurring informally, but it is not taken into account in the actual assessment.

Summative assessment

Although ACCESS is an industry-wide assessment system, there are no central assessment instruments, for example, data banks of theory questions or observation checklists for assessors. Instead, it is up to each establishment and each assessor to devise their own methods and instruments of assessment. (The Regent is in the process of centralising the observation sheets and checklists devised by assessors at the hotel). Most summative assessment, as with the example provided, consists of an 'assessor observation form', listing the steps or elements the candidate must be competent in. The standard, or performance criteria, from the competency profiles, are based on industry standards. (See next section and for example of competency profile and assessor's observation form. Note that the latter only contains the first skill 'Greet and seat guests' from the competency profile).

This particular observation in the 'restaurant service' unit, may be assessed either in role play or in a 'real' situation. At the Regent, it is most likely to be assessed through role play. The assessor chooses a colleague to be the 'customer' and together they put together a scenario that can include all elements of the competency profile being assessed, including 'unpredictable' elements such as responding to customer rudeness, dissatisfaction and so on. Issues are raised here pertinent to many assessments carried out in the service sector. That is, when customers/clients are involved, it is not always appropriate to conduct an assessment, no matter how discretely it is performed. As well, in this hotel, it is found that the pre-briefing and feedback sections of the assessment are carried out more easily when a role play is involved.

The theory/knowledge segment of this assessment is done either orally after the practical or the candidate may be given a quiz to

answer, written by the assessor. The assessor may also ask questions during the practical assessment. (See example, 'Present and finalise accounts' for the kinds of questions an assessor asks and the kinds of responses expected).

As well as the specific elements of each unit, there are underlying elements (generic) assessed in every unit: hygiene, safety, customer courtesy, general principles. The latter refer to the underlying modes of operation which apply to all standards for example, efficiency, cost effectiveness, security. These principles, and the former three elements, back up the standards; they are not written as an explicit part of the standards but it is expected that each assessor will assess them according to the particular 'standards' of the enterprise. It is assumed, before the assessment takes place, that the candidate will have knowledge and understanding of these underlying elements and their related skill requirements. These elements are examples of the Mayer key competencies.

Industry versus enterprise standards

Competency standards set by the Tourism and Hospitality industry are very broad. They are based on assessment principles that rely on the *judgement* of people experienced in the industry, rather than relying on the *measurement* of outcomes. Like other service sectors, this industry contains huge variation in the types of enterprises and the standards each sets for its clientele. The Regent, a five-star hotel, clearly must assess to the standards expected of it, if it is to maintain its reputation. Although enterprises in this industry are expected to assess from the *industry standards*, it is also clear (as the competency profile illustrates) that these standards are open for interpretation, and that different enterprises will interpret them differently.

Validity and reliability—quality assurance

Reliability and validity are derived from a number of sources. Industry assessors play an important role in monitoring the performance of workplace assessors. As well, all candidates have a right to appeal the decision of their assessor (as mentioned above).

Industry assessors also visit individual workplaces to monitor assessments—checking the 'observer checklists' and theory questions, observing the assessor assessing as well as the preparation of the candidate prior to the actual assessment. The industry assessor also checks for the application of the elements and standards in the competency profiles to the assessment. (Two assessments are compared and discussed).

Industry assessors meet at Tourism Training NSW and discuss issues relevant to monitoring the standards and assessments.

Comments

ACCESS is the first industry-wide competency-based assessment system to exist in Australia and as such it is interesting to examine the mechanisms for combining quality assurance across the tourism

and hospitality industry and recognition of the differing needs and standards of individual enterprises.

Quality assurance comes from industry assessors meeting regularly across enterprises to discuss assessment instruments, methods and interpretation of the standards. The industry originally stressed that they wanted a 'low intervention' assessment approach so no general question banks or other assessment instruments have been developed. Rather, it has been left to individual assessors to develop their own instruments. Although this has the advantage of there being no 'central control' imposing on the enterprise as well as allowing each assessor to tailor the assessment to their workplace, it has also acted as an impediment to a great deal of assessment occurring. Constructing valid, reliable observation sheets and suitable questions takes time which is not always available to the assessor. Hence, the Regent is now beginning to compile a data base of assessment instruments used at that hotel. Over time, this should allow more assessments to occur and cut the costs of individual assessors producing their own.

As well, one strength of the assessment process used at the Regent and hopefully in other establishments, is the emphasis given to thorough post-assessment feedback and encouraging learners to think about and articulate their interpretation of the assessment.

(If the assessor and the assessor come to the same conclusion, then this is an example of a transparent assessment taking place).

ACCESS is continuing to refine and improve their system. The recent addition of the learning materials is very welcome. It is likely that the competency profiles will be revised to include a greater level of detail and that information on the four key principles (mentioned above) used by assessors during assessments will be communicated to candidates prior to assessment. (These are two of the recommendations coming from the ACCESS evaluation).

RESTAURANT SERVICE

BASIC LEVEL

Competency Profile

Module Number - BFB 3

Demonstrate competency and understanding of restaurant service with particular regard to appropriate pacing of work, pleasant and helpful attitude to guests and consistent attention to service details

SKILLS	MODE	NOTES ON STANDARDS

1. Greet and seat guests

1.1 Guest receiving — T & P

- Welcome, identification, recognition of host and self introduction
- Checking reservation and seating preferences

Practical		DATE	SIGNATURE	COMMENTS
Theory				

1.2 Guest seating — P — Check venue policy of list presentation timing and method

- Helping seat guests
- Presenting menus and drink lists

Practical		DATE	SIGNATURE	COMMENTS
Theory				

2. Order Taking

2.1 Explain, advise upon and sell menu and drink list items — T & P — Check for demonstrated display of product knowledge

Practical		DATE	SIGNATURE	COMMENTS
Theory				

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RESTAURANT SERVICE - BFB 3 (continued)

2.2 Complete and distribute order documentation	T or P	Check speed and accuracy; check use of electronic ordering system if installed	

Practical				
Theory		DATE	SIGNATURE	COMMENTS

2.3 Change cutlery and glassware to suit guest choices • A la carte • Table d'hote	T or P		

Practical				
Theory		DATE	SIGNATURE	COMMENTS

3. Serve and clear

3.1 Collect, check and serve pre-meal drinks • Safely loaded tray • Correct use of coasters and cocktail napkins	P	Check for service to correct guest without secondary query	

Practical				
Theory		DATE	SIGNATURE	COMMENTS

3.2 Collect, check and carry plated meals • Using trays • Using waiters grip for multiple plates	P	Check correct and hygienic use of waiters cloth for hot plate carrying and service	

Practical				
Theory		DATE	SIGNATURE	COMMENTS

BFB 3
5.32

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RESTAURANT SERVICE - BFB 3 (continued)

FOOD AND BEVERAGE

3.3 Serve soup, entree, main course and dessert dishes • Plate service • Family service • Spoon and fork service (vegetables, breadrolls only)	P	Determine venue policy for service side and check compliance		

Practical		DATE	SIGNATURE	COMMENTS
Theory				

3.4 Offer and serve accompaniments	T & P	Determine knowledge of required accompaniments for full range of menu items offered		

Practical		DATE	SIGNATURE	COMMENTS
Theory				

3.5 Serve tea and coffee	P			

Practical		DATE	SIGNATURE	COMMENTS
Theory				

3.6 Clear tables • Crockery/cutlery • Glassware • Tableware • Change ashtrays (during service) • Crumb down • Follow spillage rectification procedures	P	Should demonstrate both 2 and 3 plate clearing grips		

Practical		DATE	SIGNATURE	COMMENTS
Theory				

BFB 3
5.33

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RESTAURANT SERVICE - BFB 3 (continued)

3.7 Re-lay tables — P — Check re-clothing procedure suitable for open restaurant situation

Practical				
Theory		DATE	SIGNATURE	COMMENTS

4. Present and finalise accounts

4.1 Collect, check and present bill — T or P

Practical				
Theory		DATE	SIGNATURE	COMMENTS

4.2 Receive payment, thank guests and finalise account — T & P

- Cash
- Credit card
- Company or personal account

Practical				
Theory		DATE	SIGNATURE	COMMENTS

4.3 Present receipt and change — T or P — Check compliance with venue policy on gratuity acceptance

Practical				
Theory		DATE	SIGNATURE	COMMENTS

4.4 Assist guests from table, escort to exit and farewell

Practical				
Theory		DATE	SIGNATURE	COMMENTS

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BFB 3 - Demonstrate competency and understanding of Restaurant Service with particular regard to appropriate pacing of work, pleasant and helpful attitude to guests and consistent attention to service detail.

ASSESSORS OBSERVATION FORM

STEP	STANDARD	COMMENT	YES	NO
1.1 Warm Welcome	Guest courtesy			
* Recognition of host	Guest courtesy			
* Confirm reservation	General procedure			
* Confirm no. in group	General procedure			
1.2 Pull chairs (ladies first)	Guest courtesy, safety.			
* Help in sitting guests	Guest courtesy			
* Present menu	Guest courtesy Guest procedure			
* Napping	Guest courtesy			
* Explain specials	General procedure Hygiene			
* Drink order	Guest courtesy			

BFB 3 - Demonstrate competency and understanding of Restaurant Service with particular regard to appropriate pacing of work, pleasant and helpful attitude to guests and consistent attention to service detail.

4. Present and Finalise Accounts
4.1 Collect Check and Present Accounts.

Q. When you collect the bill from the cashier, what should you do?

A. Check the bill for any mistakes (wrong table no, items, amount) and appearances (creases and cleanliness).

Q. Who is the bill placed in front of?

A. The host or the person who requests the bill.

Q. On what side of the host/person who requests the bill, is the bill placed?

A. On the right hand side.

Q. What should you do when the bill is placed on the table?

A. Leave the table.

Q. What should you do while the guest checks the bill?

A. Keep a discrete eye out in case there are any queries.

Case study 8:
BHP Australia Coal Limited

Background

Following the completion of a two-year development program, the competencies required by BHP Australia Coal operations staff were set and appropriate learning modules have been developed. The development program consisted of carrying out a task analysis, a functional analysis, writing draft enterprise standards, developing draft curriculum and then module development, based on the curriculum specifications. Each step was validated by groups of experts on different sites. As well, the company has had seven in-house certificates nationally accredited and recognised under NFROT.

A series of 101 competency standards were devised in accordance with the National Competency Standards Policy and Guidelines and were validated by a total of 130 staff from all levels of the organisation. This validation took place in two stages. In the first stage, 42 supervisors were asked to answer the related questions: 'Will these standards measure what you want your people to be able to do on the job?' and 'How will you be able to use the standards to tell if people are competent?' The second stage of the validation called for the participation of randomly selected groups of staff who were given the standards and asked to identify their jobs, and inform the company if any part of their job was not covered by the standards. The validation process satisfied the company that the standards adequately covered the jobs performed by its employees.

A career development plan (based on the learning modules) has been designed to enhance the skills and knowledge of operations staff for present and future jobs. Using this plan, any worker with the help of her/his immediate supervisor can identify the competencies required for their current position. These plans will then also be reviewed by staff trained in the competency assessment process. Areas where an employee does not have the required skills and knowledge then become the basis for an agreed individual competency development program.

Non-salaried staff may also access these learning modules if they form part of the career plan agreed between the individual and the organisation. Otherwise, their training occurs through 'work models', structured series of skills generic to the mining industry but not competency-based. As well BHP has developed a Certificate in Coal Preparation Area for operator-level workers.

Each of the modules is self-paced and self-directed. The material is provided in a series of topics within a module, with each module covering one unit of competency.

An example of one module follows.

Name of module and assessment
Module No. CB54:
'Prevent discrimination and provide equal opportunity'.

Nominal duration: 24 hours.
The module is self-paced.

Summative assessment varies, depending on the work of the assessee. Evidence for the assessment is collected either through an in-depth interview (assessor and assessee) as the example here demonstrates, or can occur more 'authentically' with the assessor observing the learners carrying out particular relevant tasks, and being questioned on them.

Name of credential/award
Candidates will receive a statement of attainment on completion of this module (consisting of three topics, representing the three elements) and a certificate on completion of 8 to 10 modules in occupational health, safety and welfare. This certificate has been accredited by VETEC (QLD Vocational Education, Training and Employment Commission) in line with the National Framework for the Recognition of Training (NFROT) principles.

Context of assessment
This module is aimed at all staff who have responsibility for preventing discrimination and ensuring that equal opportunity policy is implemented. Staff could request to undergo an RPL process in relation to this module if they felt they already met the relevant competencies.

Industrial negotiations are currently occurring in the company concerning possibilities for a component of staff's remuneration to be based on completion of one or more modules.

Types of assessment
Assessments are designed to ascertain whether the learner has acquired the necessary knowledge and skills to monitor and prevent discriminatory behaviour in the workplace in order to provide equal opportunity.

Formative assessment is conducted off the job at the end of each of the three topics which makes up the module. *Summative* assessment is conducted on the job after a suitable period of guided practice in the application of competencies gained in the module. Knowledge is assessed through oral or written questions and skills are assessed by observation of actual performance of actual or simulated activities. Learners are able to attempt both types of assessment a number of times.

The assessor
BHP distinguishes between learning co-ordinators and assessors. There is a learning co-ordinator on each site, whose role is to take nominations for training, hand out modules, provide a general induction and support the learner.

Assessors may not necessarily come from the same site as the learner. Their role is to provide feedback for the formative assessment tasks and carry out the summative (on-job) assessment. In the case of this module, the company has only one assessor which contributes to consistency in assessment across the company. This is of particular concern in this module since it is dealing with legal matters and an inaccurate assessment of competency on the part of the assessor could have serious consequences in terms of discrimination charges being made against the company. Learners send their formative assessments to the assessor for comment (see examples). She also provides advice and support for those undertaking the module. For the summative assessment, she visits the learners on-site to conduct the assessment.

All BHP Australia Coal assessors must be competent in Module CB11, Competency assessment; their in-house workplace assessor training program. This module was written before the national standards for assessors were developed. BHP's module is therefore based on the British assessor standards, with training on evidence collection, candidate support, competency assessment, feedback to candidates and record keeping. As well as successfully completing this module, assessors must also be able to demonstrate competency in the area that they are assessing.

Pre- and post-assessment meetings
Learners are briefed by the learning co-ordinator at the beginning of the module as to what is expected of them and are given the learning materials. They receive a copy of the elements and performance criteria on which the module is based. The learning in each topic is based on each of the three elements in the unit. On completion of each topic they send each formative assessment assignment to the learning co-ordinator who provides them with written feedback of their progress. Learners may take as long as they need to complete each piece of work.

For the summative assessment, the assessor arranges a suitable time with the learner to come to his/her work site to perform the assessment. They would also discuss on what basis the assessment would occur (for example, observation of 'real' tasks, or an interview situation as provided in the accompanying example). Verbal feedback on the assessment would be given immediately afterwards.

Recording of assessment results
Learners record the results of their formative assessments in their work learning guides (the modules). Results of the summative assessment are recorded on a competency assessment sheet, which

also details the performance criteria in which competency has not been demonstrated. An action plan used as a form of remediation is agreed upon for the development of competency in the areas deemed 'not yet competent'.

Language and literacy
Most learners doing this module are expected to have an adequate level of language and literacy to perform their duties and they are expected to provide written answers for the formative assessment, as the example illustrates. However other workers for whom a high level of literacy in particular, is not critical for their jobs, can choose other methods of assessment as for instance in the Certificate in Coal Preparation—answers are recorded by the assessor for oral assessments.

The assessment instruments

Formative
This module contains three formative assessment tasks that relate to the three topics in the module. The first example (from topic 1) illustrates the process involved when the learner's response does not satisfactorily meet the performance criterion for that element.

The second example provided (from topic 3) through use of a *case study*, gives the learner the opportunity to demonstrate their knowledge and understanding of the topic 'Facilitating non-discriminatory behaviour in the workplace'. It is possible for the learner to negotiate another case study with the learning co-ordinator if it was felt another example would be more appropriate to his/her particular work situation.

Summative
The summative assessment is flexible and developed through a consultative approach with the learner. It is always held on-site, but not necessarily on the job. In this particular example, the assessor is seeking *evidence* that the learner can demonstrate competency in this module through an hour long interview (see evidence guide). Some of the assessor's questions involve a simulated case study approach, for example numbers 4, 6 and 9. The assessor is seeking evidence that the applicant is competent not only in anti-discrimination knowledge but also knows how to apply it. What is not apparent from the example shown is how the assessor probes substantially (without providing the answers) in order to satisfy herself that the performance criteria have been met. The candidate in this example produced other evidence of on-the-job competence, such as examples of advertisements he had written, his diary and relevant files. The questioning process was designed to ensure that the candidate was not just paying lip service to the legislation but was actually implementing his knowledge and skills. This assessment was described as on the job since the interview took place in the candidate's office where he had access to documentary evidence that he was competently performing his job.

In another assessment situation for this module, it would be possible for the assessor to observe the candidate actually perform her/his duties relevant to the module. This would be followed up with further questions.

There are only three performance criteria, one for each element. They closely relate to performance necessary to comply with the Anti-Discrimination Acts. Emphasis is on the word 'compliance' in each criteria, which infers 'to act' as well as 'to know and understand'. The company maintains that to specify more performance criteria would involve delving into the many components of the Anti-Discrimination Act, which would become very atomistic and unwieldy.

The assessor must satisfy herself that the learner has covered the range of evidence required in his own words. Her familiarity with the act and its application to BHP's needs means that she is able to use her professional judgement to infer competence.

Reliability and validity of the instruments
In this specific module, reliability and consistency are enhanced by the fact that there is only one assessor for all those in the company undertaking the module.

The questions are based entirely on the topics contained in the module, which in turn are based on the unit of competency, elements and performance criteria, giving the instrument content validity. Validity is further enhanced by the collection of evidence from a number of sources; interviewing the candidate as well as written documentation (from the workplace) of competency.

Comments
The learning materials are clearly presented with examples of some of the groups which the Anti-Discrimination Act targets (there is no mention of Aboriginal people for instance, in the learning materials). The three formative assessment tasks allow learners opportunities to receive useful feedback from their assessor. The literacy skills of the learners need to be quite advanced in order to complete these tasks.

The summative assessment is an interesting example of assessment based on a 'collection of evidence' principle, where the assessor has to satisfy herself that sufficient evidence has been demonstrated by the responses the learner gives to her questions. The questions are valid in that they derive from the learning materials, the elements/performance criteria and provide opportunities for hypothetical scenarios, based on the learner's actual work. Observation of the learner in the course of his/her work would be preferable—more valid—(for instance, conducting an interview with an employee) but this is not always possible to arrange.

BHP Australia Coal Limited

COMPETENCY STANDARDS

Functional Area: Occupational Health, Safety and Welfare

UNIT OF COMPETENCY: **54 PREVENT DISCRIMINATION AND PROVIDE EQUAL OPPORTUNITY**

ELEMENTS	PERFORMANCE CRITERIA
1. Take all reasonable steps to prevent discrimination and provide equal opportunity	Compliance with Act able to be demonstrated by observation and documentation
2. Monitor to ensure compliance with legislation	Compliance with Acts able to be demonstrated by observation and documentation
3. Provide Anti-discrimination and Equal Employment Opportunity counselling for employees where necessary	Compliance with act demonstrated by monitoring of effects of counselling

Range of Variables

1 All elements of competency apply.

2 Any BHP Australia Coal Limited mine site.

3 Queensland and Commonwealth anti-discrimination legislation.

Evidence

See attached sheet.

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BHP Australia Coal Limited

1.4 ASSESSMENT (FORMATIVE: TOPIC 1)

Using your own work area as a context write a 500 word statement (approximately two pages) which includes your considered comments on:

a) Why legislation for non-discriminatory behaviour has been enacted;

b) Circumstances when it is permissible to discriminate;

c) The difference between indirect and direct discrimination; and,

d) Which of the thirteen attributes will be most significant in improving mine site work practice.

Submit this to your Learning Co-ordinator who will arrange for assessment. A completed photocopy of the Assessment Sheet at the end of this module should be attached to your work.

Your Learning Co-ordinator will return the assessment to you indicating either:

The presentation of your work is satisfactory and you should proceed to the next topic.

or

You should review particular parts of your work and re-submit for assessment.

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Prevent Discrimination and Provide
Equal Opportunity Manual

COMMENTS FOR RUDY WYATT

a) You have accurately identified the parts of the module which relate to this question and given them to me with your answers.

I would like to see you give me an answer in your own words. Give me your understanding, in your own words and making your own comments, to explain why the legislation has been enacted. This need only be 1 or 2 paragraphs. You can quote comments in the module to re-enforce or support your comments if you wish.

You cann telephone me nay time if you wish to discuss your own ideas with me.

b) You have identified certain grounds for exemption in the workplace. Please give a further explanation of at least one of these exemptions. Use your own workplace to do this. Check the module for the comments which relate to the various exemptions listed i the module.

You have listed impairment as an exemption generally but this is only an exemption in certain limited circumstances.

You may <u>not</u> discriminate at work on the basis of a person's impairment except in certain circumstances i.e. where their impairment prevents them from doing the job effectively and/or safety.

c) You have given a correct statement of direct discrimination. Your statement on indirect discrimination missing part of the key elements of indirect discrimination. In any event, the question requires you to give your comments as to your understanding of the <u>difference</u> between the two.

d) I can appreciate many of your comments in relation to sex discrimination. This is an area you have identified as significant at the mine site.

I believe that of the 13 attributes listed in the Anti-Discrimination Act as the ground on which a person cannot discriminate against another the following will be significant at each work place:-

sex
marital status
age
race
impairment
religion
trade union activity

It is prudent for all employees to have each of these issues in mind as forming the potential basis of a claim for discrimination at work.

ASSESSOR'S COMMENTS:

Rudy,

Your revision of Topic 1 and our subsequent telephone conversation shows me that you have a sound understanding of the topic.

On your revised answers, I offer the following specific comments:-

(A) I emphasise that the prevention of sexual harassment is just one aspect of the anti-discrimination legislation. The legislation also prevents any form of discrimination - or less favourable treatment - on the basis of any one of the 13 attributes (ie. sex, marital status, parental status, age, trade union activity etc). For discrimination to occur on the basis of 1 of the 13 attributes, it is not necessary for the victim to feel embarrassed, humiliated or intimidated.

(B) The situation you describe was a case of discrimination.

On the issue of whether it was open to claim an exemption on the basis of unjustifiable hardship, I am inclined to think that temporary arrangements could have been made which would not have been a prohibitive expense to BHPAC. Thus, I believe an exemption would not have been made available.

I can see you understand the principles involved. This application can be difficult, as your example clearly shows. I am available by phone if you ever wish to discuss such matters.

(C) Not all conditions imposed for a job will form a basis for a claim for discrimination under the legislation.

Indirect discrimination is the imposition of a condition for a job which a person with 1 of the 13 attributes is not able to comply with (and the imposition of that condition is not genuinely required for the particular work which is to be performed). See the examples in 1.2.3 of the Module CB54.

I believe that most examples of discrimination relating to the mine site will be cases of direct discrimination.

I am sending you up a copy of the Queensland legislation. Also in tonight's mail are two articles which are very helpful.

Regards,

ALISON SAUNDERS.

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BHP Australia Coal Limited

3.4 ASSESSMENT (FORMATIVE)

Consider the following case and develop a detailed response to the situation.

A worker refuses to wear a hard hat because it is claimed that they would not be able to wear their headgear (turban) which is a requirement of their religious faith. They want to work at a work site.

What action would you take?

How would you counsel the worker?

What would you do if they refused to accept the counselling and accused the company of discrimination on the grounds of religion?

Submit this to your Learning Co-ordinator who will arrange for assessment. A completed photocopy of the Assessment Sheet at the end of this module should be attached to your work.

Your Learning Co-ordinator will return the assessment to you indicating either:

The presentation of your work is satisfactory and you have now completed this module,

or

You should review particular parts of your work and re-submit for assessment.

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SUMMATIVE ASSESSMENT FOR 'PREVENT DISCRIMINATION AND PROVIDE EQUAL OPPORTUNITY'

EVIDENCE

1 Without referring to written material tell me what are the thirteen attributes that a person may have which are not able to be discriminated against at work and give one example of those which you think apply in your situation.

2 Describe direct and indirect discrimination giving examples of each in relation to two of the attributes.

3 Describe a situation in the work environment (either actual or theoretical) which would infringe the anti-discrimination legislation.

4 Describe to me a five minute talk, as if the talk were part of a tool-box meeting, highlighting the measures employees are to adopt to comply with the legislation and highlighting behaviour which would be discriminatory and in breach of the legislation.

5 Tell me if discriminatory behaviour occurs in any of the following situations:

(a) married employees are given preference for overtime.

(b) older employees are given less overtime.

(c) an employee in your crew continually tells jokes about catholics and trade unionists to the embarrassment of other personnel at the mine site.

(d) a homosexual employee is subject to jokes and derisive comments.

(e) a homosexual employee is passed over for an interview for promotion.

(f) a female employee is given training opportunities which are less advantageous than training opportunities given to other employees.

6 The following situation has occurred:

A female is declined a trades position at the mine because it is felt that she may have difficulty lifting some machinery and other parts and in any event, there are no separate toilet facilities available. Also, you think that she is pretty and will be the butt of lewd comments.

Has discrimination occurred? Why is that? If discrimination has occurred, what would be non-discriminatory behaviour in the same circumstances.

7 Cite an example of discrimination in the workplace. What steps would you take to ensure that non-discriminatory behaviour occurs. What counselling would you give to the person who is engaging in discriminatory behaviour?

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A. Saunders
24/8/93

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8 What criteria would you include in a job advertisement? Also, what matters would you consider irrelevant and specifically exclude? (A job advertisement written by you is acceptable).

9 You have an employee who consistently engages in discriminatory behaviour despite your talks to him. What would you do?

10 When is an employer allowed to discriminate in the work situation? Give examples.

A. Saunders
24.8.93.

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